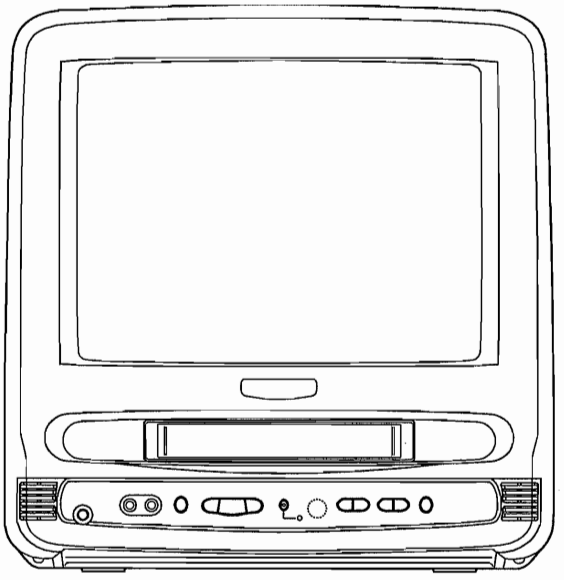
FUNAI Symphonic

SERVICE MANUAL

Sec. 1: Main Section	Sec. 2: Deck Mechanism Section	Sec. 3: Exploded Views and Parts List Section
● Specifications ● Preparation for Servicing ● Adjustment Procedures ● Schematic Diagrams ● CBA's	● Standard Maintenance ● Alignment for Mechanism ● Disassembly/Assembly of Mechanism	● Exploded Views ● Parts List

13"COLOR TV/VCR COMBINATION

SC3813/F3813C



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

13" COLOR TV/VCR COMBINATION

SC3813
F3813C

Sec. 1: Main Section

- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA' s**

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SPECIFICATIONS

* Mode ---------SP mode unless otherwise specified
* Test input terminal
  <Except Tuner> ----------Video input (1Vp-p)
  Audio input (-10dB)
  <Tuner> ----------Ant. input (80dBμV) Video: 87.5%
  Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	—
2. Linearity	Horizontal	%	—	15
	Vertical	%	—	10
3. High Voltage	—	kV	22	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.3
	Corner	m/m	—	1.5
	Side	m/m	—	1.2
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	6	4
4. Brightness	APL 100%	ft-L	55	40
5. Color Temperature	—	K	9200	—

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P)	Line	230	200
2. Jitter (Low)	(R/P)	μS	0.05	0.2
3. S/N Chroma AM (SP)	(R/P)	dB	38	33
PM (SP)	(R/P)	dB	36	33
4. Wow & Flutter (RMS)	(R/P)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	43	40

<AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power (Max.)	(R/P)	W	1.0	0.8
2. Audio S/N (W/LPF)	(R/P)	dB	40	36
3. Audio Distortion (W/LPF)	(R/P)	%	3.0	5.0
4. Audio Freq. Response (-10dB Ref. 1KHz)	200Hz (R/P) 8kHz (R/P)	dB dB	-2.0 0	-2.0 ± 5.0 0 ± 6.0

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

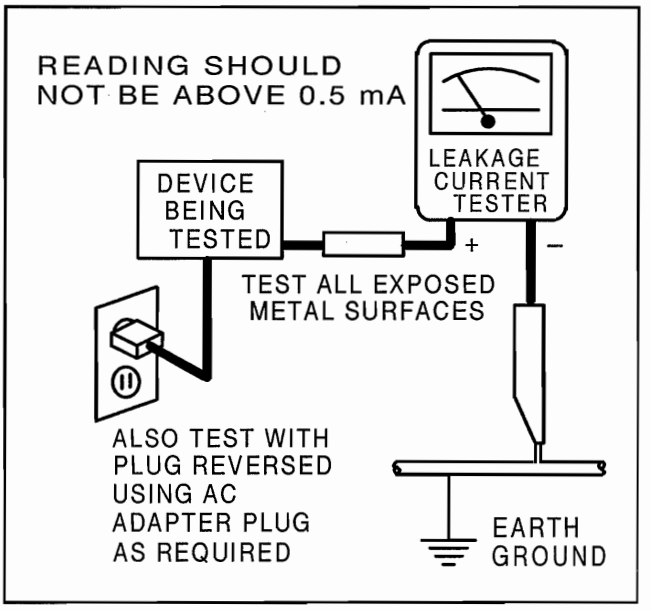
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. Antenna Cold Check - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. X-Radiation and High Voltage Limits - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing

is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not is- olated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu- ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.

Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing

2) Double insulated wires

3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape

2) PVC tubing

3) Spacers

4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.

K. Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector (discard it).

2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

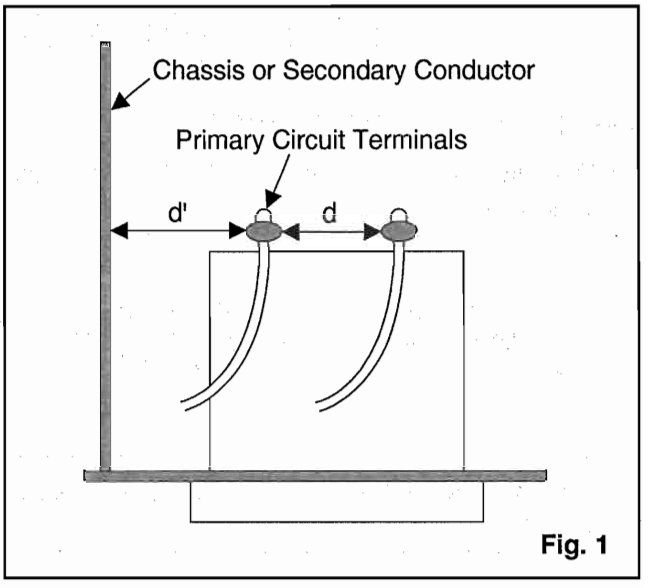


Fig. 1

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

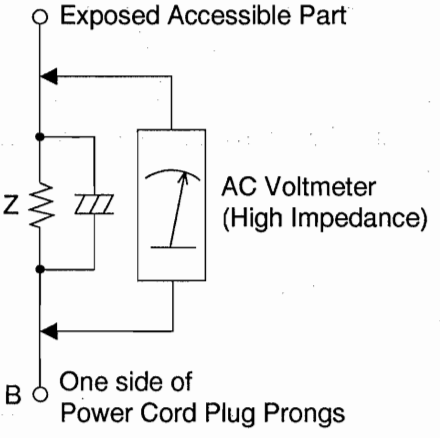


Fig. 2

Table 2 : Leakage current ratings for selected areas

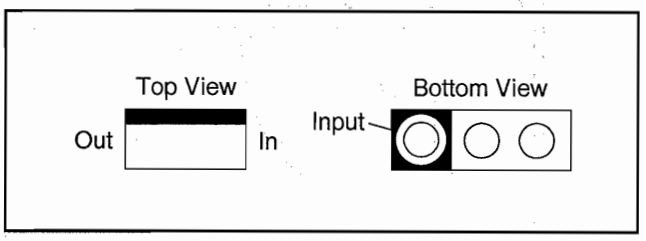
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA or CANADA	0.15μF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

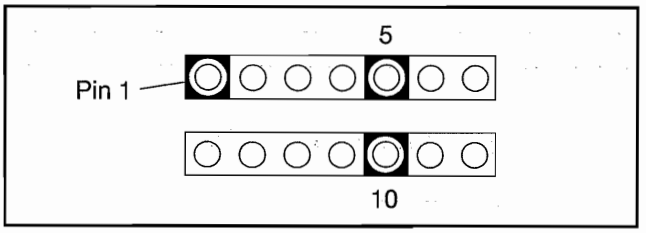
STANDARD NOTES FOR SERVICING

Circuit Board Indications

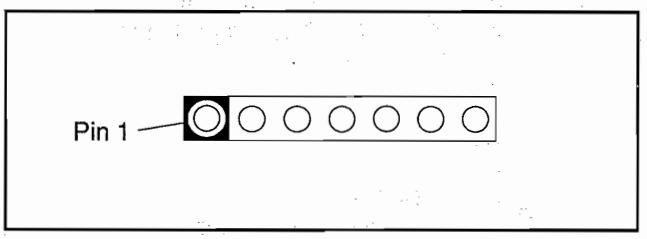
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin is indicated as shown:

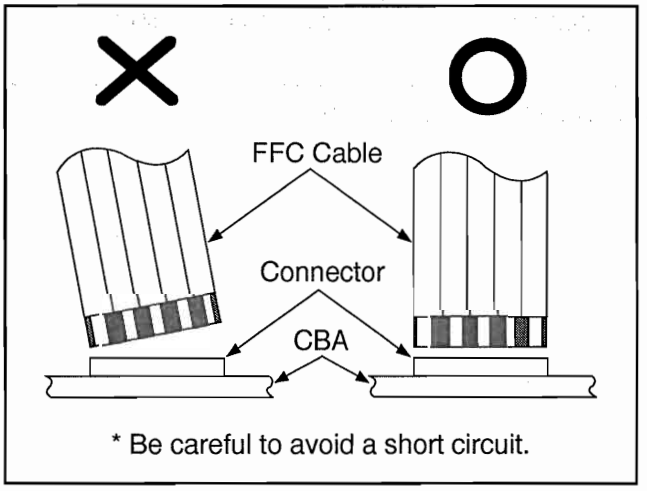


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.

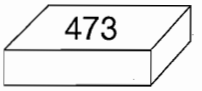


[CBA= Circuit Board Assembly]

How to Read the Values of the Rectangular Type Chip Components

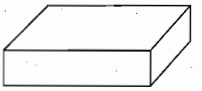
Example:

(a) Resistor



= 473 = 47 [kΩ] (Top View)

(b) Capacitor



= Not Shown (Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The Following Procedures are Recommended for the Replacement of the Leadless Components Used in this Unit.

1. Preparation for replacement

a. Soldering Iron
Use a pencil-type soldering iron (less than 30 watts).

b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
Do not apply heat for more than 4 seconds.

d. Preheating
Leadless capacitor must be preheated before installation. (130°C~150°C, for about two minutes.)

Notes:

a. Leadless components must not be reused after removal.

b. Excessive mechanical stress and rubbing for the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove leadless component with a twisting motion.

Notes:

a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.

b. Take care not to break the copper foil on the printed board.

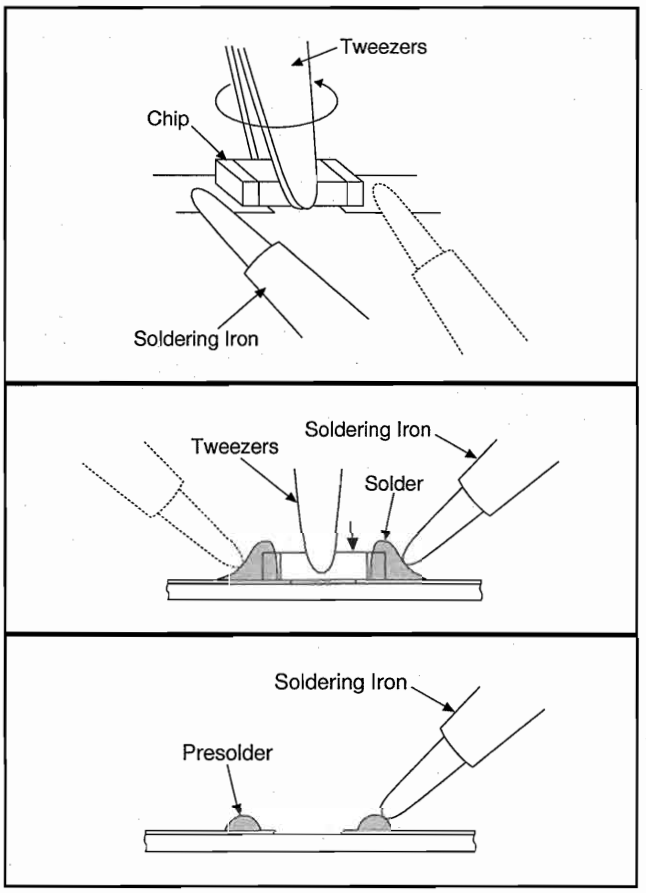
3. Installing the leadless component

a. Presolder the contact points of the circuit board.

b. Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

Caution:

1. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)

b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack- IC (See Fig. S-1-7).

c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

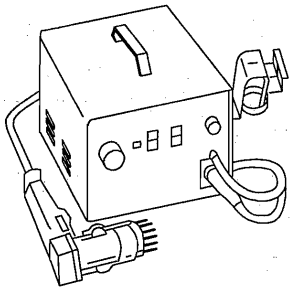


Fig. S-1-1

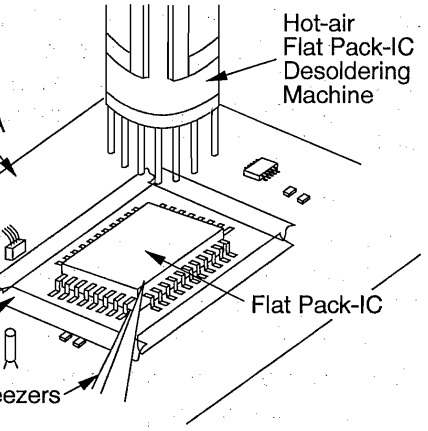


Fig. S-1-2

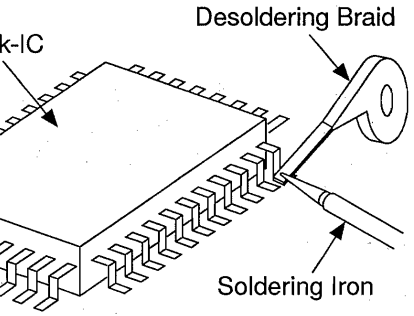


Fig. S-1-3

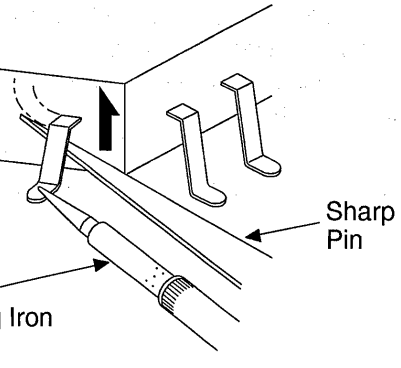


Fig. S-1-4

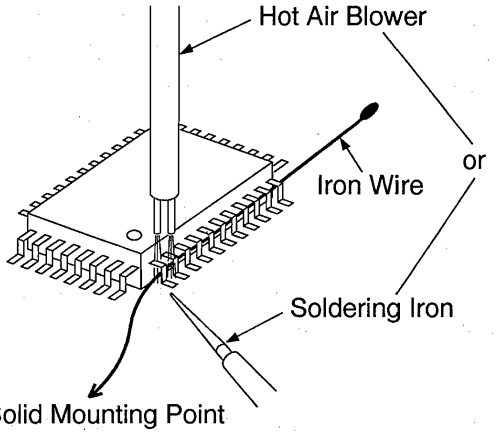
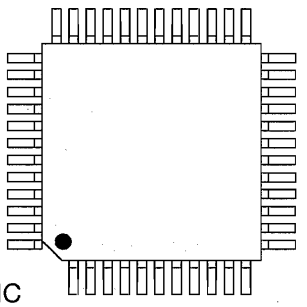


Fig. S-1-5

Example :



Pin 1 of the Flat Pack-IC
is indicated by a " ● " mark.

Fig. S-1-6

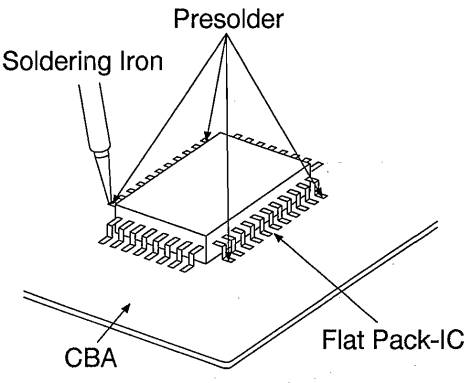


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

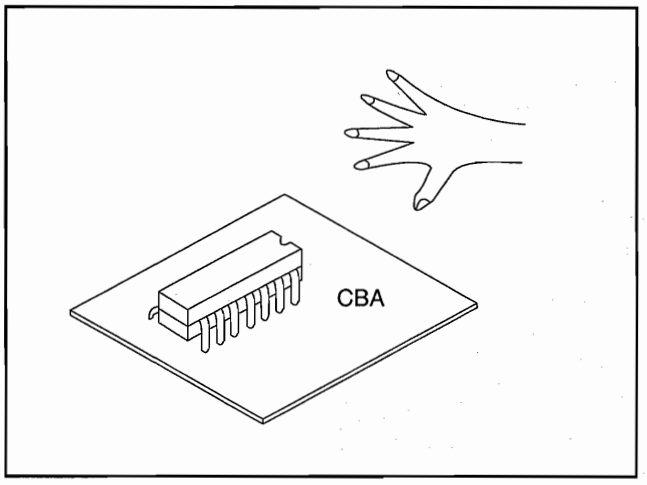
Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

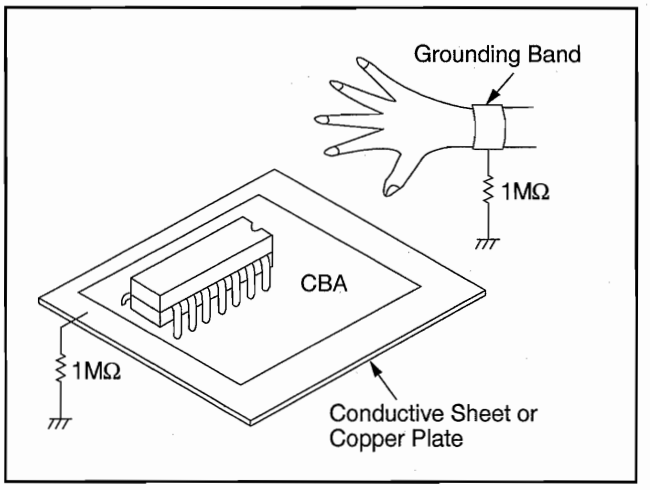
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

Incorrect



Correct



PREPARATION FOR SERVICING

How to Use U17 Deck Extension Cable

(1) Remove Deck Mechanism Assembly. If needed, remove Main CBA from Tray Chassis.

Refer to " Disassembly Instructions" on page 1-6-1.

(2) Connect Main CBA and Deck with the U17 Deck Extension Cable (A) as shown in Fig. 1. And connect Main CBA and Deck with U17 Deck Extension cable (B) as shown in Fig. 1. Connect the 2 clips to the Shield plate on the Main CBA.

(U17 Deck Extension Cable : N1098XA)

Note: There are 3 types of U17 Deck Extension Cable. (A). They are for 2 Head, 4 Head, and Hi-Fi. Use a

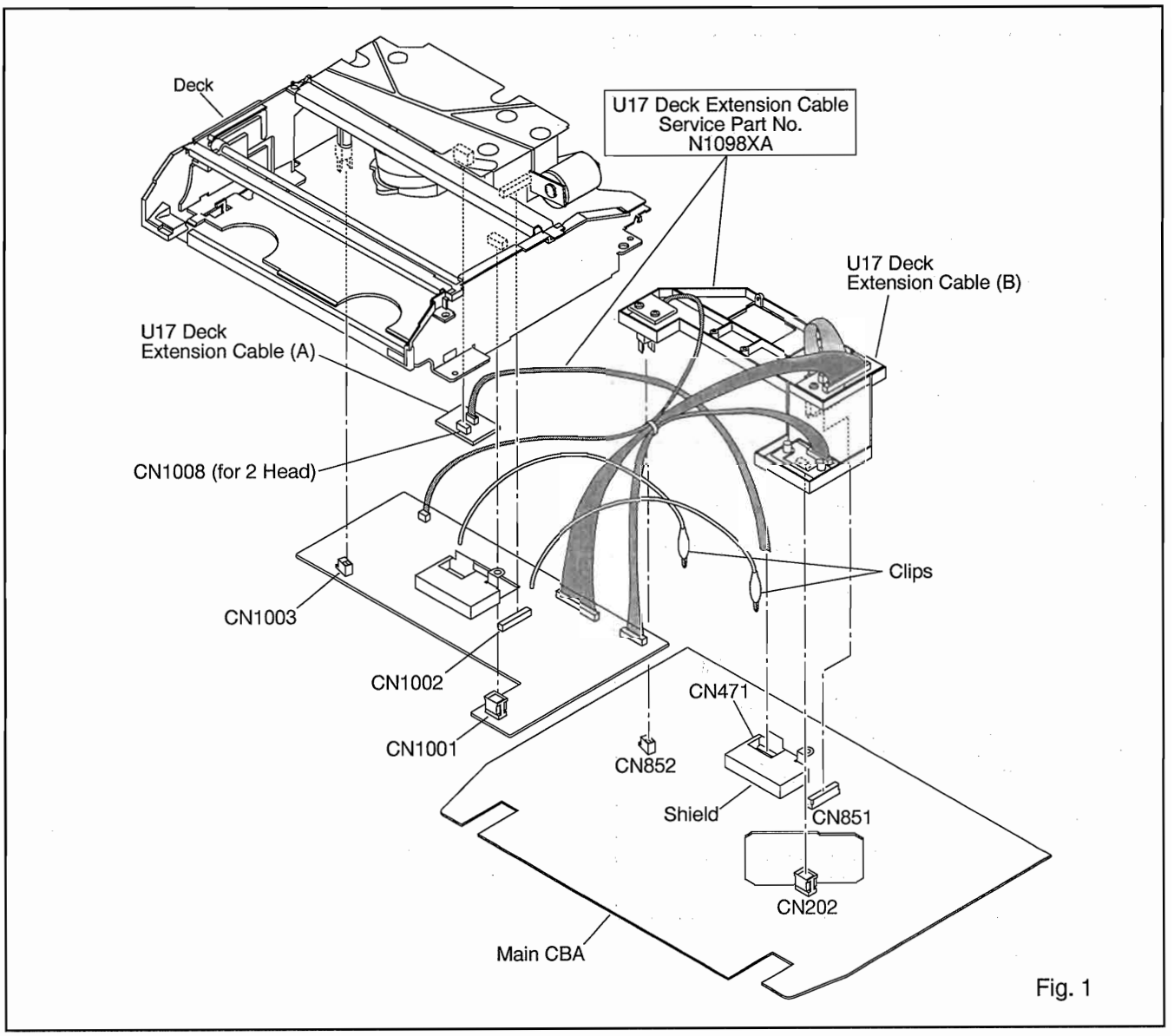


Fig. 1

How to Enter the Service Mode

Caution: 1

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

1. Cover Q203 (START SENSOR) and Q202 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

1. Turn Power On.
2. Press Remote Control keys as following order.

   MENU-->MUTE-->PAUSE-->MUTE
3. When enter the Service Mode, One of the Number (1 , 2 or 4) will display at corners of the Screen.
4. During the Service mode, Electrical Adjustment Mode can be selected by Remote Control key.

   Details are as follows.

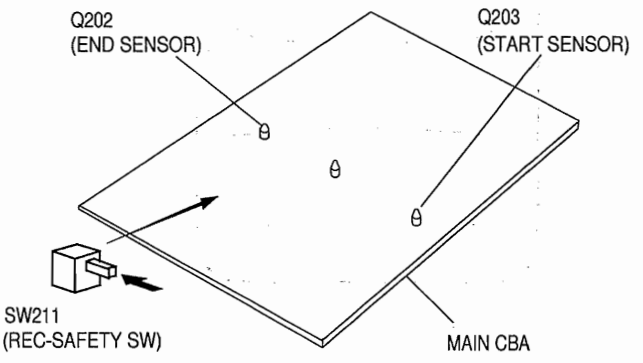
Key	Adjustment Mode
MENU	Picture Adjustment Mode : Press the MENU button to change from Bright, Contrast, Color, Tint and Sharpness. Press CH UP/DOWN key to display Initial Value, Maximun and Minimum cyclically.
0	Hf_0Adjustment Mode: See Adjustment Instructions Page 1-7-2 .
1	H.Shift Adjustment Mode. See Adjustment Instructions Page 1-7-3.
2	AGC Adjustment Mode: See Adjustment Instructions Page 1-7-2.
3	AFT Adjustment Mode: See Adjustment Instructions Page 1-7-1.
4	Auto Record Mode: Perform Recording (15 Sec.)-->Stop-->Rewind (Zero Return) automatically.
5	Head Switching Point Adjustment Mode: See Adjustment Instructions Page 1-7-4.
6	Static Convergence Adjustment Mode: Shows 1 dot color on the center of the screen. Press CH UP/DOWN key to change the color White and Magenta.
7	Purity Check Mode: Shows Red, Green or Blue on the screen when the CH UP/DOWN keys are pressed.
8	Cut-off Adjustment Mode: Shows only Horizontal Line. See Adjustment Instructions Page 1-7-2.
9	Drive (R) and (B) Adjustment Mode: See Adjustment Instructions Page 1-7-3.

Caution: 2

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

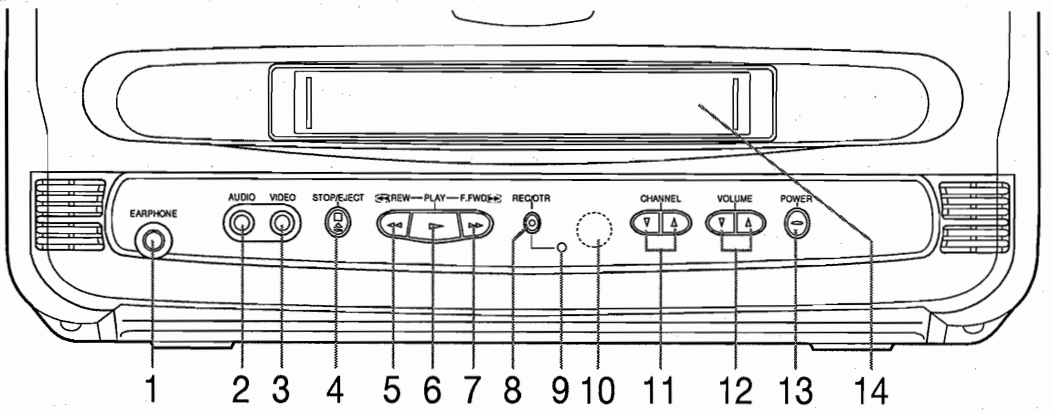
Preparing: 2

1. To eject the tape, press the STOP/EJECT button on the unit (or Remote Control).
2. When you want to record during the Service mode, press the Rec button while depressing SW211 (REC-SAFETY SW) on the Main CBA.

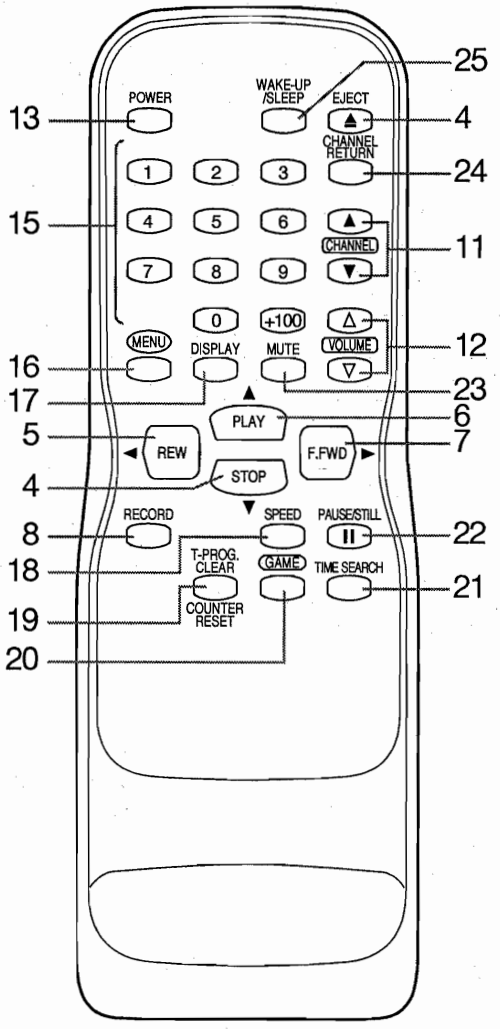


OPERATING CONTROLS AND FUNCTIONS

TV/VCR FRONT PANEL - [Fig.1]



REMOTE CONTROL - [Fig.2]



NOTE:

Some controls are located on both the TV/VCR and on the remote control, some are only located on one, some controls operate certain functions only in one location. See each description for details.

We do not recommend the use of universal remote controls. Not all of the functions may be controlled with a universal remote control.
If you decide to use a universal remote control with this unit, please be aware that the code number given may not operate this unit. In this case, please call the manufacturer of the universal remote control.

1. **EARPHONE jack**– Connects to earphones (not supplied) for personal listening. The size of jack is 1/8" monaural (3.5mm).
2. **AUDIO input jack**– Connect to the audio output jack of your audio equipment, video camera or another VCR.
3. **VIDEO input jack**– Connect to the video output jack of your video camera or another VCR.
4. **STOP button**–Press to stop the tape motion.

   EJECT button– Press in the Stop mode to remove tape from TV/VCR.

▼ **button**–Press to select setting modes from the on screen menu. Press to enter digits when setting program. (for example: setting clock or timer program)

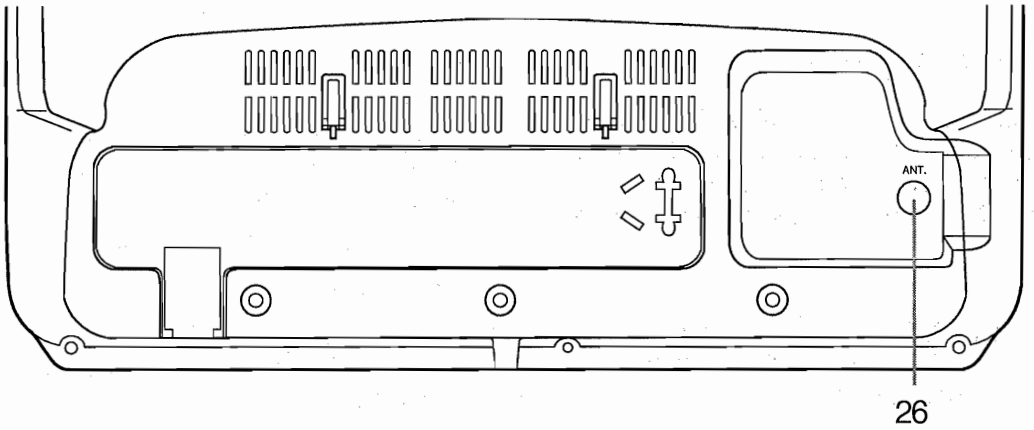
5. **REW button**– Press to rewind the tape, or to view the picture rapidly in reverse during playback mode. (Rewind Search)

◄ **button**–Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)

6. **PLAY button**– Press to begin playback.

▲ **button**–Press to begin playback.Press to select setting modes from the on screen menu. Press to enter digits when setting program. (for example: setting clock or timer program)

REAR VIEW - [Fig.3]



7. **F.FWD button–** Press to rapidly advance the tape, or to view the picture rapidly in forward during playback mode. (Forward Search)

► **button**–When setting program (for example: setting clock or timer program), press to determine your selection and proceed to the next step you want to input.

Press to determine setting modes from on screen menu.

Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)

8. **REC button–** Press for manual recording.

   OTR button– Activates One Touch Recording. (only on the TV/VCR)

9. **RECORD indicator**– Flashes during recording.

   Lights up in the Stand-by mode for Timer Recording

10 **Remote Sensor Window**– Receives the infrared signals from the remote control.

11. **CHANNEL ▲ / ▼ buttons–** Press to select the desired channels for viewing or recording.

    TRACKING function– Press to minimize video 'noise' (lines or dots on screen) during playback mode.

12. **VOLUME ▲ / ▼** buttons– Adjust the volume level.

13. **POWER button**– Press to turn TV/VCR on and off. Press to activate timer recording.

14. **Cassette compartment**

15. **Number buttons**– Press to select desired channels for viewing or recording. To select channels from 1 to 9, first press the 0 button and then 1 to 9.

    +100 button– When selecting cable channels which are higher than 99, press this button first, then press the last two digits.

(To select channel 125, first press the "+100" button then press "2" and "5").

16. **MENU button**– Press to display the main menu on the TV screen.

17. **DISPLAY button**– Display the counter or the current channel number and current time on the TV screen.

18. **SPEED button**– Press to choose the desired recording speed:SP/LP/SLP.

19. **T-PROG. CLEAR button**– Press to cancel a setting of timer program.

    COUNTER RESET button– Press to reset counter to 0:00:00.

20. **GAME button**– Sets the game mode and external input mode at the same time.

21. **TIME SEARCH button**– Press to activate Time Search mode.

22. **PAUSE/STILL button**– Press to temporarily stop the tape during the recording or to view a still picture during playback.

23. **MUTE button**– Mutes the sound. Press it again to resume sound.

24. **CHANNEL RETURN button**– ress to go back to the previously viewed channel. For example, pressing this button once will change channel display from 3 (present channel) to 10 (previously viewed channel), and pressing it a second time will return from 10 to 3.

25. **WAKE UP/SLEEP button**– Sets the Wake up or Sleep Timer.

26. **ANT. terminal**– Connect to an antenna or CATV.

    Before plugging the Rod antenna into antenna terminal, check that the pin is not bent. If it is bent, straighten the pin, then plug the pin into antenna terminal.

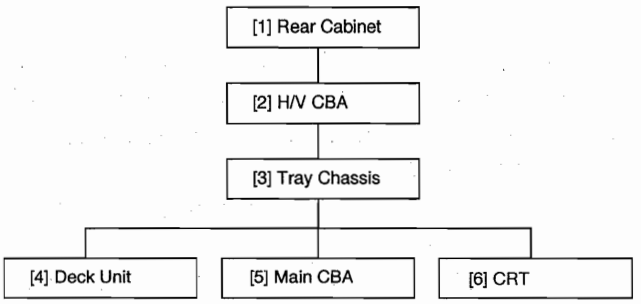
DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

STEP/ LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	4(S-1), 1(S-2)	1
[2]	H/V CBA (With Holder)	3, 4, 5	Anode Cap, CRT CBA, CN501, CN503, CN504, CN571, CN575, 2(S-3),1(L1)	2
[3]	Tray Chassis	3	CN601, CN801	3
[4]	Deck Unit	3	4(S-4), 3(S-5)	4
[5]	Main CBA	3,5	5(S-6), 1(L-2)	5
[6]	CRT	4	4(S-7)	6
↓	↓	↓	↓	↓
①	②	③	④	⑤

Note :

①. Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.

②. Parts to be removed or installed.

③. Fig. No. showing Procedure of Part Location

④. Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two Screw (S-2)

⑤. Refer to the following"Reference Notes in the Table" following.

Reference Notes in the Table

1. Removal of the Rear Cabinet.

   Remove Screws 4(S-1) and 1(S-2).

Caution !!

Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

2. Removal of the H/V CBA. Discharge the Anode Lead of the CRT with the CRT Ground before removing the Anode Cap.

   Disconnect the following: Anode Cap., CRT CBA, CN501, CN503, CN504, CN571 and CN575.

   Remove H/V CBA with Holder.

   Remove Screws 2(S-3) and unlock 1(L-1). Pull thep the H/V CBA backward.

3. Removal of the Tray Chassis. Disconnect CN601 and CN801. Pull the Tray Chassis backward.

4. Removal of the Deck Unit. Remove Screws 4(S-4) and 3(S-5). Lift up the Deck Unit.

5. Removal of the Main CBA. Remove Screws 5(S-6) and Pull up the Main CBA. Unlock 1(L-2).

6. Removal of the CRT. Remove Screws 4(S-7) and pull the CRT backward.

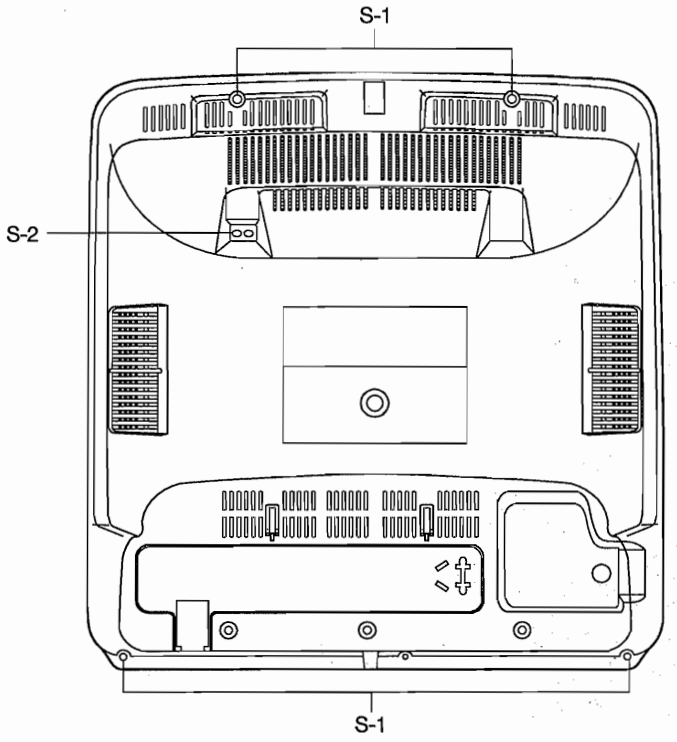
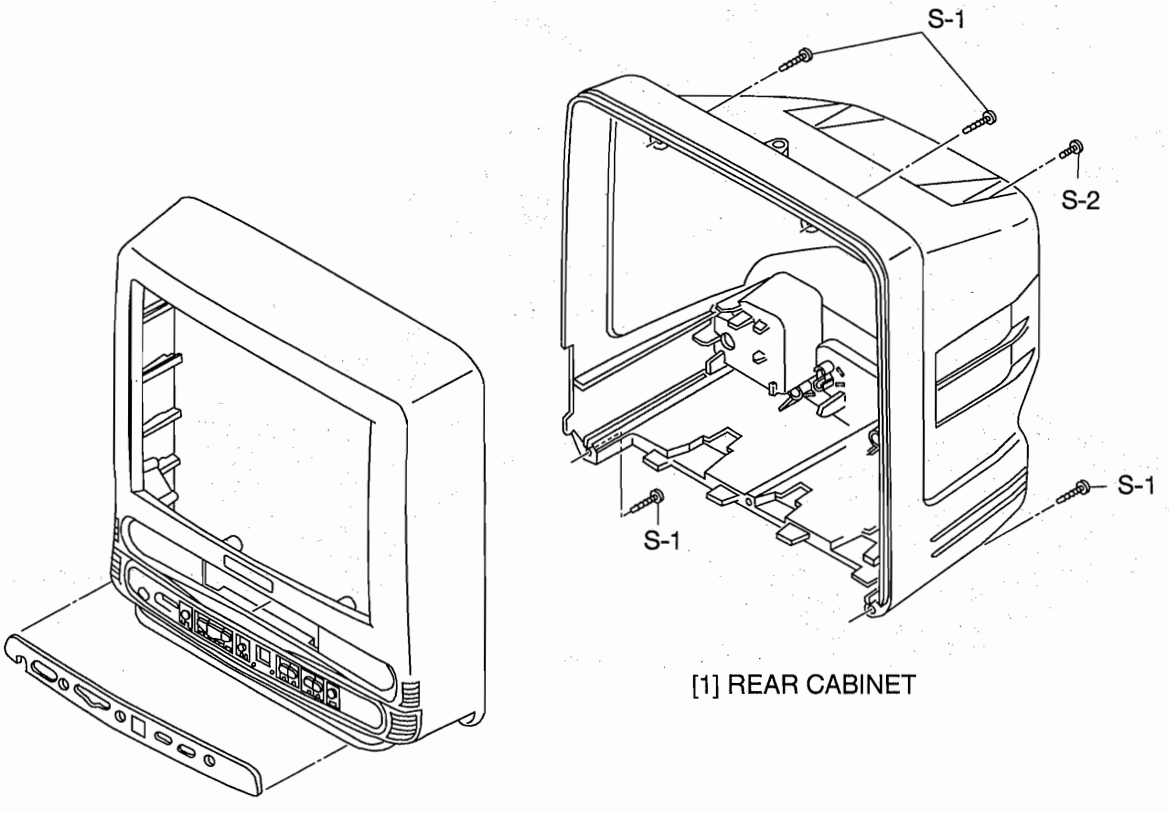


Fig. 1



[1] REAR CABINET

Fig. 2

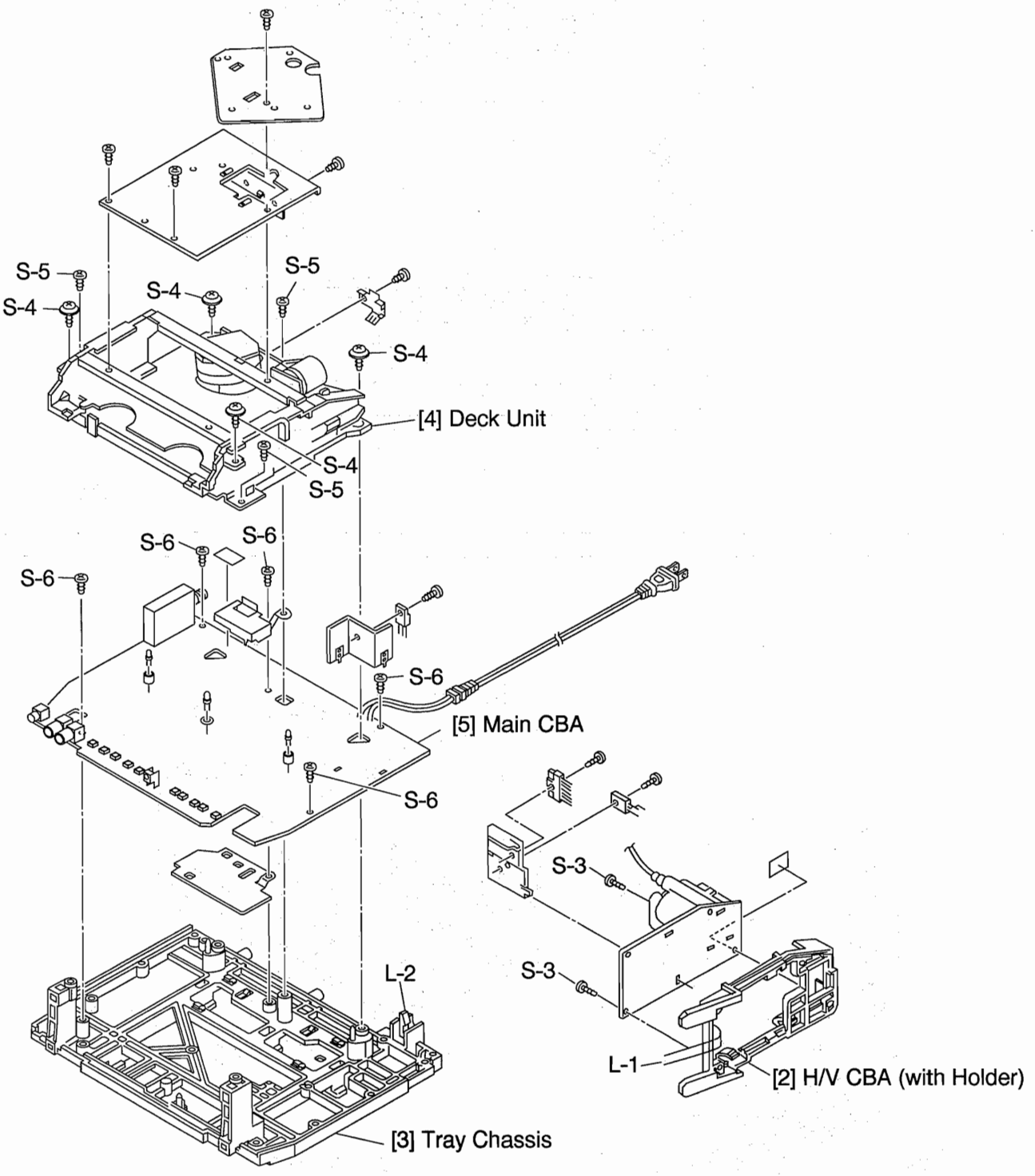
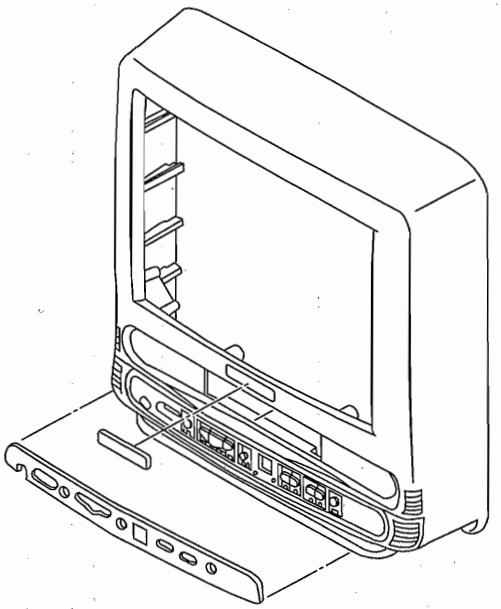

S-5
S-4
S-4
S-5
S-4
[4] Deck Unit
S-4
S-5
S-6
S-6
S-6
S-6
[5] Main CBA
S-6
S-3
S-3
L-2
L-1
[2] H/V CBA (with Holder)
[3] Tray Chassis

Fig. 3



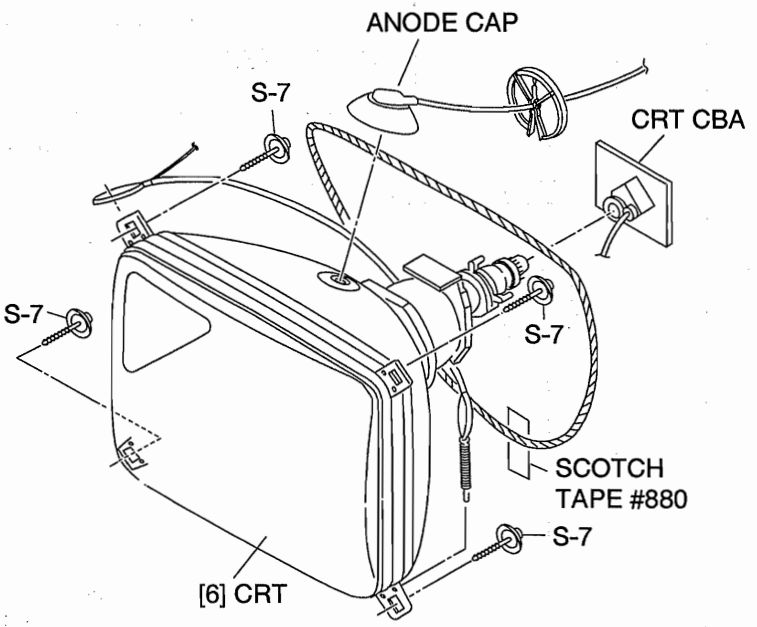


Fig. 4

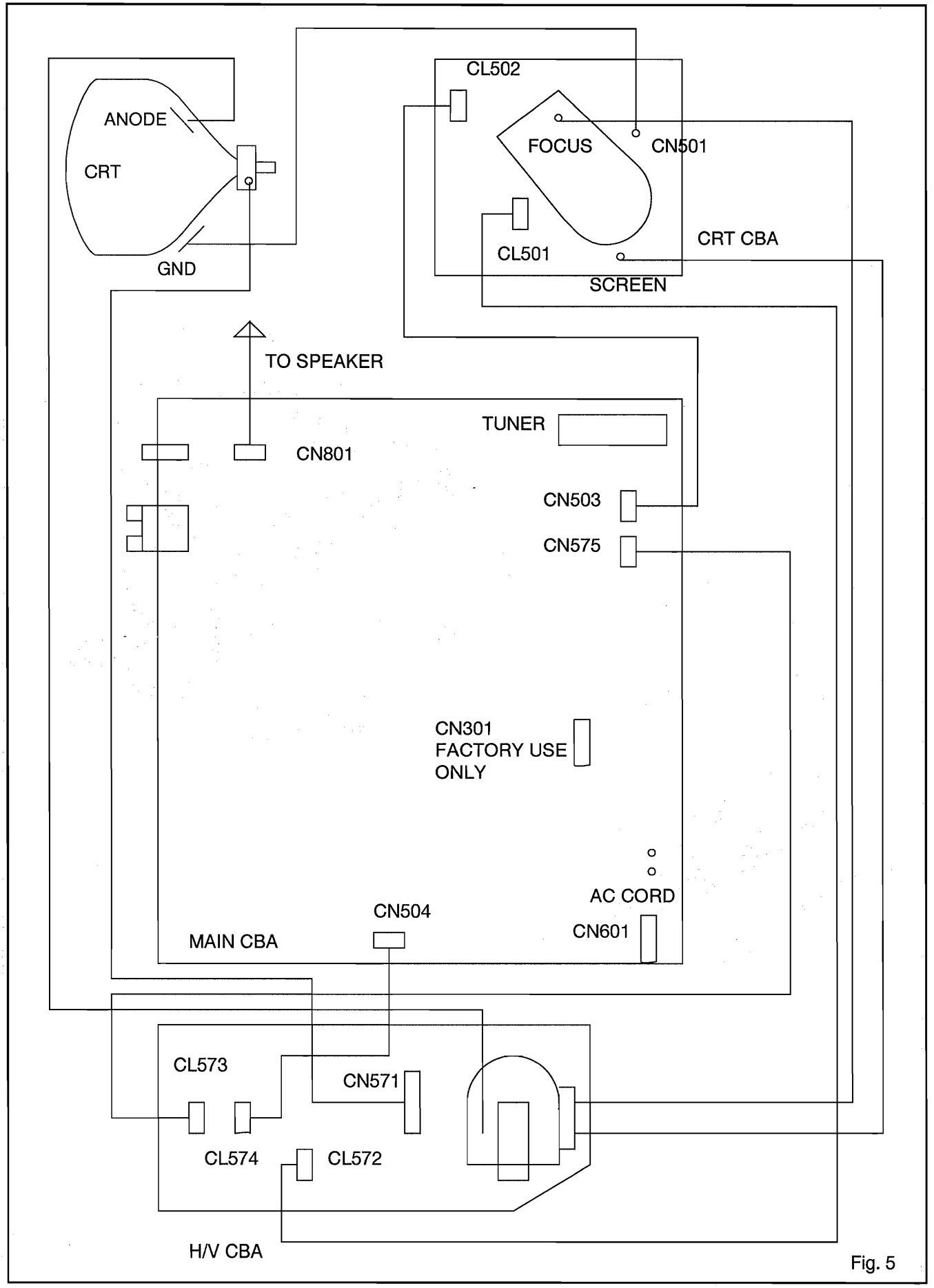

CL502
ANODE
CRT
FOCUS
CN501
CL501
CRT CBA
GND
SCREEN
TO SPEAKER
TUNER
CN801
CN503
CN575
CN301
FACTORY USE
ONLY
AC CORD
CN504
CN601
MAIN CBA
CL573
CN571
CL574
CL572
H/V CBA

Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:
"CBA" is abbreviation for " Circuit Board Assembly".

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

It is important to perform these adjustments only after all repairs and replacements have been completed.

Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div,
   F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver

1. DC 108V Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Mode	Input
J552 (+108V) J182 (GND)	VR601	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+108±0.5V DC.	

Note: J552 --- H/V CBA
J182(GND), VR601 --- Main CBA

1. Connect DC Volt Meter to J552 and J182(GND).
2. Adjust VR601 so that the voltage of J552 becomes +108±0.5V DC.

2. AFT Adjustment

Purpose: To operate AFT correctly.

Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.

Test Point	Adjustment Point	Mode	Input
J124 (AFT) J182 (GND)	T301 (VCO)	---	See Direction
Tape	M. EQ.	Spec.	
---	Oscilloscope or DC Volt Meter	+3.9±0.1V DC	

Figure

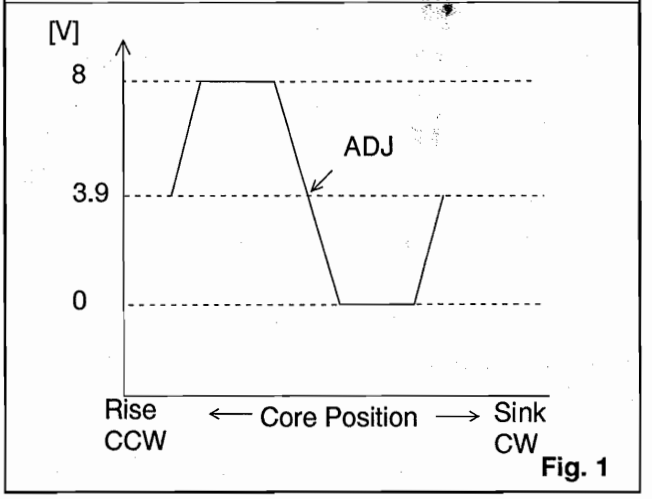


Fig. 1

Note: J124, J182 (GND), T301 --- Main CBA

1. Disconnect the RF input and Set the unit to Channel 4.
2. Reconnect the RF input. Input Color Bar signal.
3. Turn the core of T301 fully counterclockwise.
4. Turn the core of T301 clockwise and find the point where the voltage drops from approximately 8V to 0V immediately on the oscilloscope. (J124)
5. Turn the core of T301 little by little and find the point where +3.9±0.1V DC is obtained between the area mentioned in step 4.

3. AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.

Symptom of Misadjustment: AGC does not synchronize correctly when RF input level is too weak and picture distortion may occur if it is too strong.

Test Point	Adjustment Point	Mode	Input
J125 (AGC) J182 (GND)	CH. Up/Down Button (Remote Control Unit)	---	Color Bar 67.25MHz 60dBμV
Tape	M. EQ.	Spec.	
---	Pattern Generator DC Volt Meter	+5.0±0.7VDC	

Notes: J125, J182 (GND) --- Main CBA

Use Remote control Unit.

1. Enter the Service mode. (See Page 1-4-2) Then press number 2 button on the remote control unit.
2. Receive the Color Bar signal for channel 4 (67.25MHz). (RF Input Level: 60dBμV)
3. Press CH. ▲/▼ button so that the voltage of J125 becomes +5.0±0.7V DC.
4. Turn the Power off and on again.

4-1. H f_O Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
J573	----		----
Tape	M. EQ.	Spec.	
----	Frequency Counter		

Note: J573 --- H/V CBA

1. Connect Frequency Counter to J573.
2. Set the unit to the AUX mode which is lacated before CH2 and no input is necessary. Enter the Service mode. (See Page 1-4-2)
3. Operate the unit for at least 20 minutes.
4. Press " 0 " button on the Remote Control Unit and Select H-Adj Mode. (By pressing " 0 " button the display will change from C-TRAP to H-ADJ)
5. Press CH ▲/▼ button on the Remote control Unit so that the display will change " 0 " and " 1 ". At this moment, Choose display " 0 " or " 1 " when the Frequency Counter shows 15.734kHz or closer.
6. Turn the power off and on again.

4-2. C-Trap Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
J506	----		Color Bar
Tape	M. EQ.	Spec.	
----	Oscilloscope		

Note: J506--- CRT CBA

1. Connect Frequency Counter to J506.
2. Set the unit to the AUX mode which is located before CH2 and input a color bar signal. Enter the Service mode. (See Page 1-4-2)
3. Press " 0 " button on the Remote Control Unit and Select C-TRAP Mode. (By pressing " 0 " button the display will change from C-TRAP to H-ADJ).
4. Press CH ▲/▼ button on the Remote Control Unit so that the display will change " 0 ", " 1 ", " 2 " and " 3 ". Choose display " 0 ", " 1 ", " 2 " or " 3 " when B-Out (3.58MHz) value becomes minimun on the Oscilloscope reading.
5. Turn the power off and on again.

5. V. Size Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	VR541 (V. Size)	Play	Monoscope
Tape	M. EQ.	Spec.	
---	Monochrome	90±5%	

Note: VR541--- H/V CBA

1. Operate the unit for at least 20 minutes.
2. Input the Monoscope Pattern.
3. Adjust VR541 so that the monoscope pattern will be 90±5% of display size and the circle is round.

6. V. Shift Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of misadjustment: If V. size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	VR542 (V-POS)	---	Monoscope
Tape	M. EQ.	Spec.	
---	Monochrome	See below	

Note: VR542 --- H/V CBA

1. Operate the unit for at least 20 minutes.
2. Input Monochrome Pattern.
3. Adjust VR542 so that the top and bottom of the monochrome pattern will be equal of each other.

7. H. Shift Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH UP/DOWN Button	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note:

1. Operate the unit for at least 20 minutes.
2. Input Monoscope Pattern.
3. Enter the Service Mode. (See page 1-4-2)
4. Press the " 1 " button on the Remote Control Unit.
5. Adjust CH ▲ / ▼ button on the Remote Control Unit so that the left and right side of the Monoscope pattern will be equal of each other.
6. Turn the power off and on again.

Note: If you don't have Monoscope, play test tape (F8-G or F8-M).

8. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adjustment Point	Mode	Input
---	Screen-Control	Ext.	Black Raster / White Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure

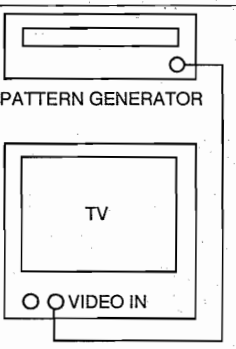


Fig. 2

Note: Screen Control FBT --- H/V CBA

F.B.T= Fly Back Transformer

Use the Remote Control Unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black Raster Signal from Video In.
3. Enter the Service Mode. (See page 1-4-2)
4. Press the " MENU " button. (Display changes BRIGHT, CONTRAST, COLOR, TINT and SHARPNESS cyclically when the " MENU " button is pressed). Select BRIGHT and press " CH ▲ / ▼ " button then set in initial value. (Display changes MAX, INITIAL and MIN when the " CH UP/DOWN " button is pressed).
5. Follows above procedure for CONTRAST, COLOR, TINT AND SHARPNESS.
6. Press " 8 " button then press the " 1 " button. The Display will momentarily show" CUT OFF R " (R=Red) now there should be a horizontal line accros the center of the picture. If needed gradually turn screen control on the flyback, clockwise until the horizontal line appears. If a pure white line appears then go to step 9 otherwise read on. Adjust the Red Cut off by pressing the CH ▲ / ▼ buttons. Proceed to step 7 when the Red Cut off adjustment in done.
7. Press the " 2 " button. The display will momentarily show " CUT OFF G " (G=Green). Adjust the Green

CUT OFF by pressing the CH ▲ / ▼ buttons. Proceed to step 8 when the Green CUT OFF adjustment is done.

8. Press the " 3 " button. The display will momentarily show " CUT OFF B " (B=Blue). Adjust the Blue CUT OFF by pressing the CH ▲ / ▼ buttons. When done with steps 6, 7 and 8 the horizontal line should be pure white if not, then attempt the CUT OFF adjustment again.
9. Input the White Raster Signal from Video In.
10. Press the " 9 " button then the " 1 " button. The display will momentarily show " DRIVE R " (R=Red) adjust the RED DRIVE as need with the CH ▲ / ▼ buttons.
11. Press the " 2 " button. The display will momentarily show ' DRIVE B " (B=Blue)". Adjust the BLUE DRIVE as needed with the CH ▲ / ▼ buttons.
12 Turn the power off and on again.

9. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adjustment Point	Mode	Input
---	CH UP/DOWN Button	EXT	IQW
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

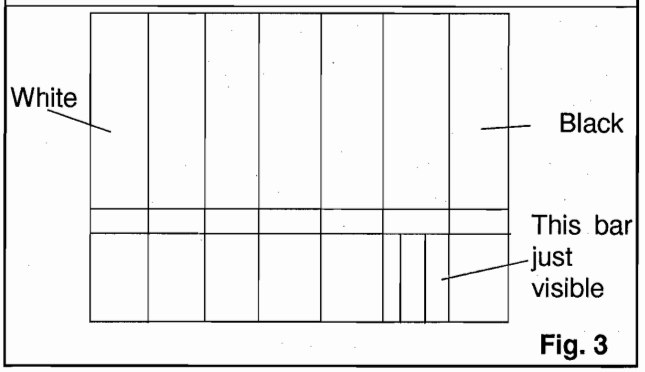


Fig. 3

Note: IQW Setup level --- 10 IRE

1. Enter the Service Mode. (See page 1-4-2) Then input IQW signal from Video in.
2. Press MENU button. (Display changes BRIGHT, CONTRAST, COLOR, TINT and SHARPNESS cyclically when MENU button is pressed). Select BRIGHT and press VOL UP/DOWN button so that the bar is just visible (See above figure).
3. Turn the power off and on again.

10. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adjustment Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR (FBT) --- H/V CBA

FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Face the unit to the East and Degauss the CRT using Degaussing Coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

11. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Play back.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (FL8A).
2. Enter the Service Mode. (See page 1-4-2) Then press the number 5 button on the remote control unit.
3. The Head Switching position will display on the screen,If adjustment is necessary Follow Step 4. 6.5H(412.7μs) is preferable.
4. Press " CH ▲ " or " CH ▼ " button on the Remote Control Unit if necessary the Value will be changed in 0.5H step up or down. Adjustable Range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
   Lower out of range; 0.0H
   Upper out of range; -.-H
5. Turn the power off and on again.

12. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).

Symptom of Misadjustment: Audio may not sound correctly.

Note: This adjustment automatically done by the micro computer.

13. CCS Text Box Location

When replacing the CRT, the CCS Box does not stay in appropriate position. Then, replace micro computer.

Note: This adjustment automatically done by the micro computer.

The following 2 adjustments normally are not attempted in the field. Only when replacing the CRT then adjust as a preparation.

14. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	
Figure			

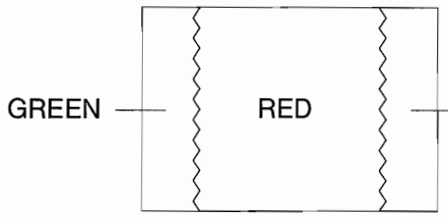


Fig. 4

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 5)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 4,5)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

15. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adjustment Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	
Figures			

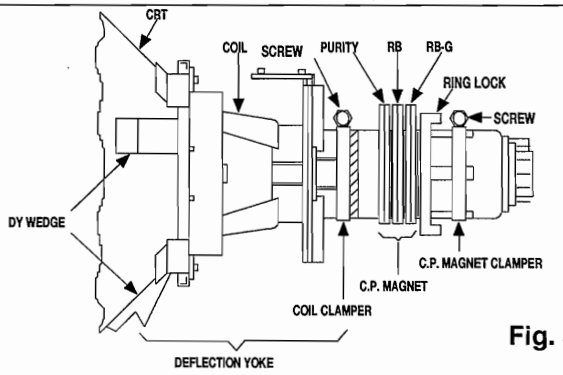


Fig. 5

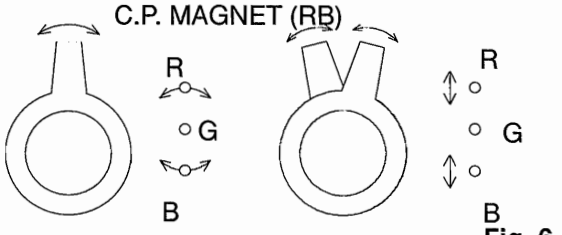


Fig. 6

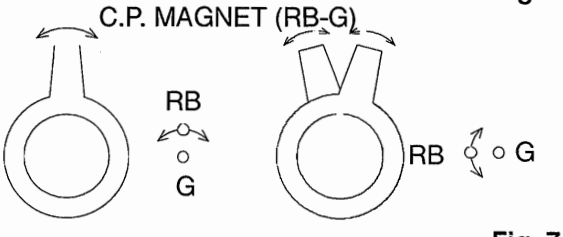


Fig. 7

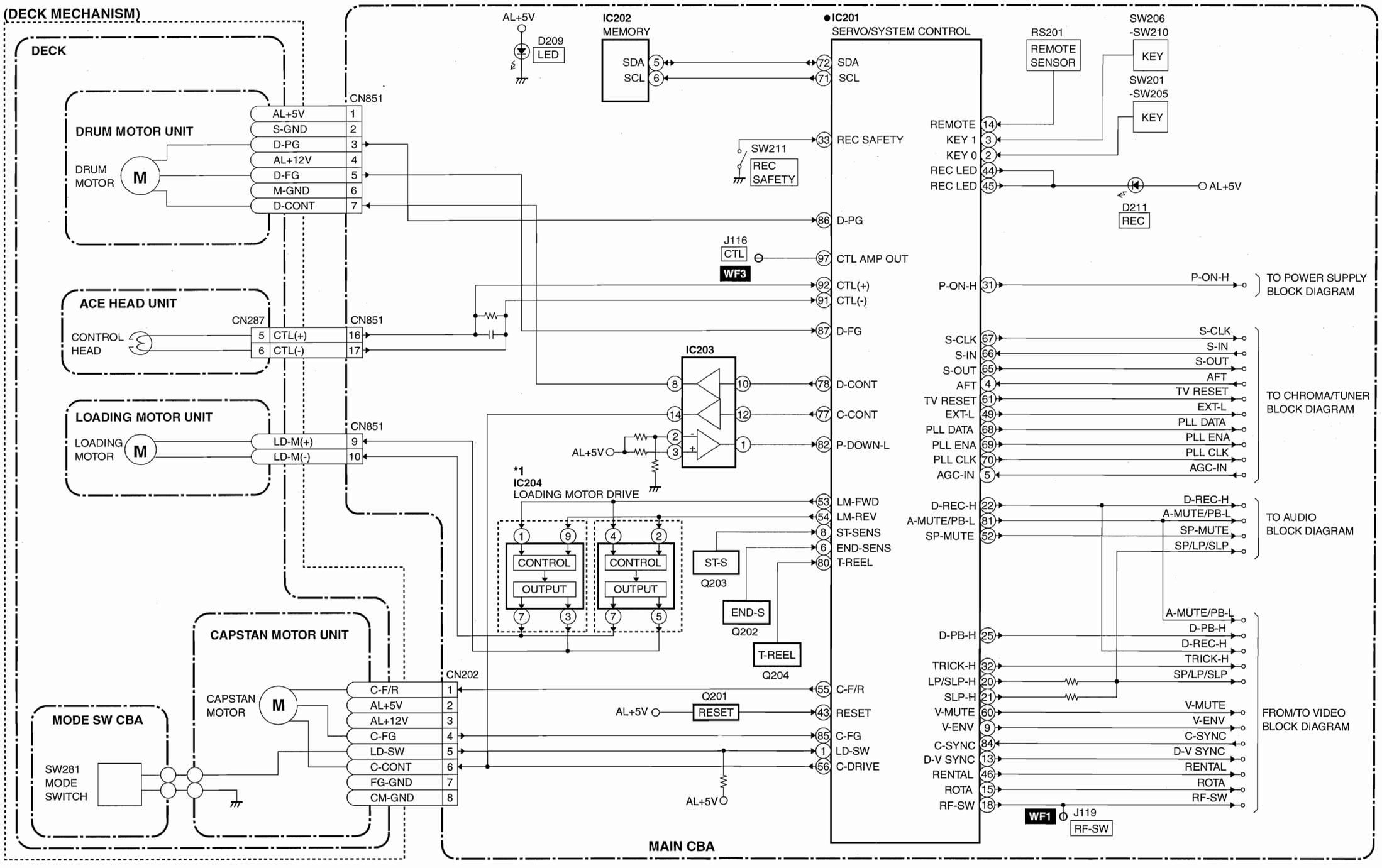
1. Set the unit to the AUX Mode which is located before CH2 then input a Dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 6)

3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 7)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

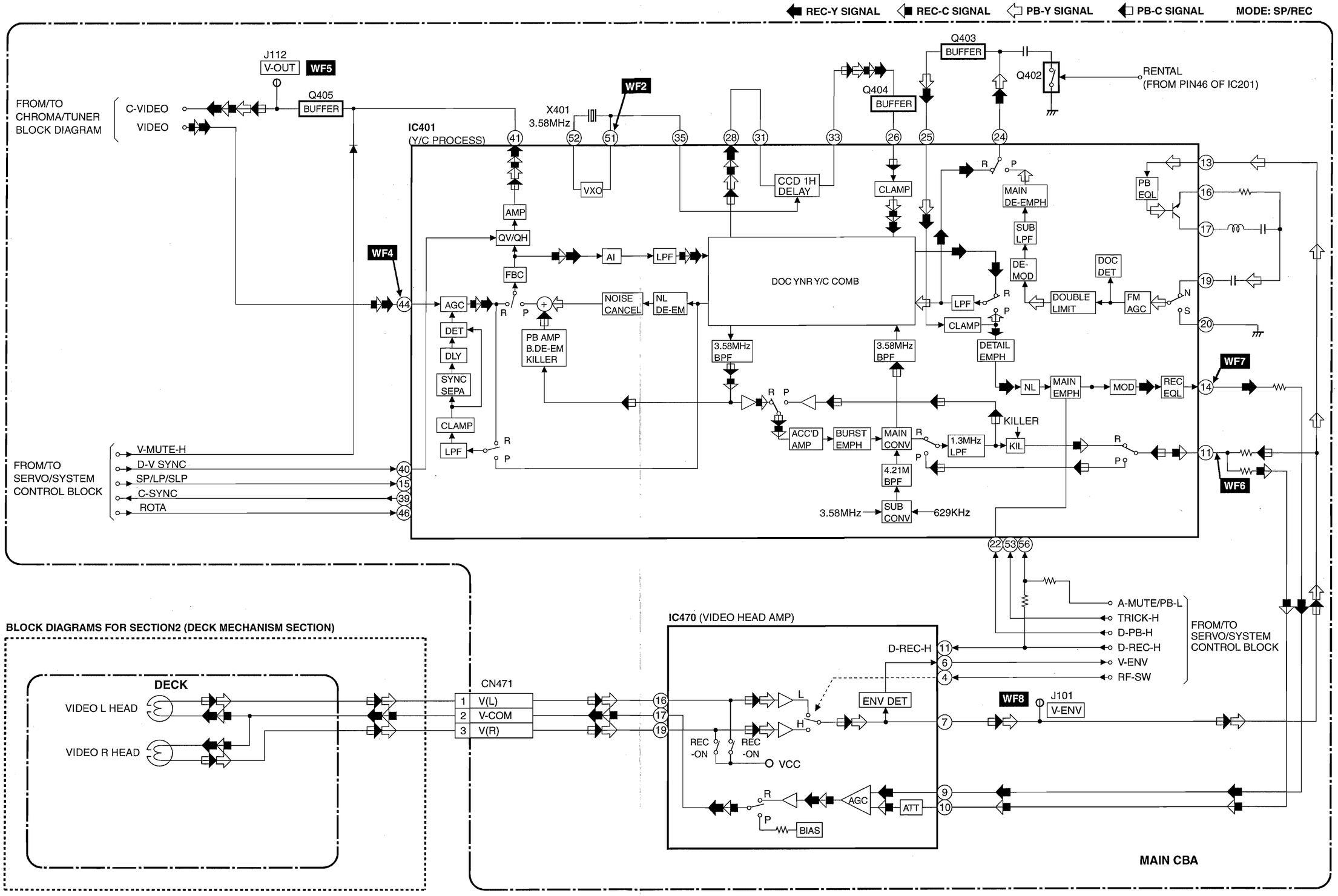
Servo/System Control Block Diagram

*1 NOTE: The loading motor drive IC(IC204) is either TA7291S or BA6955N.
These ICs are exchangeable parts.

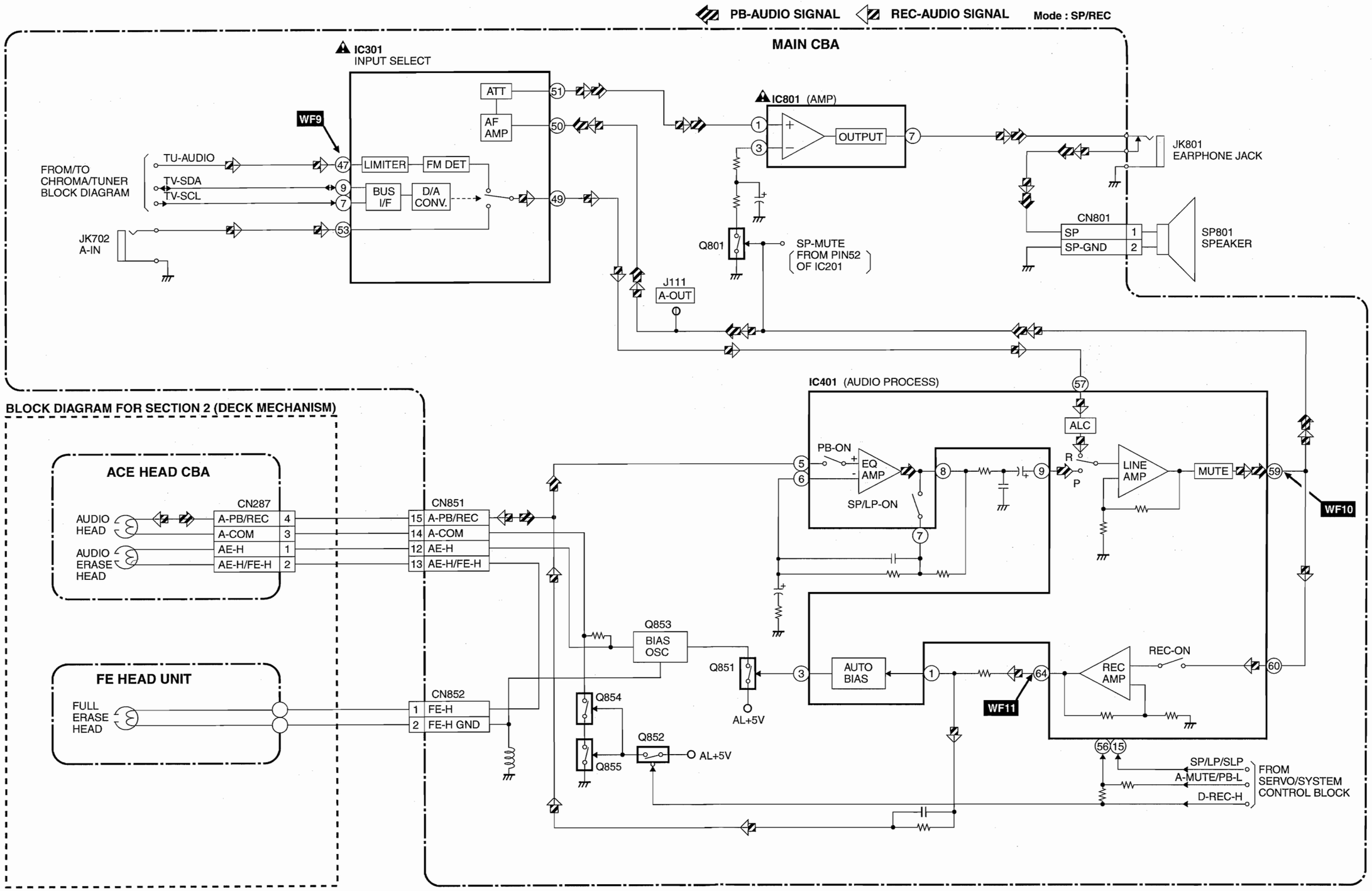
"● " = SMD



Video Block Diagram

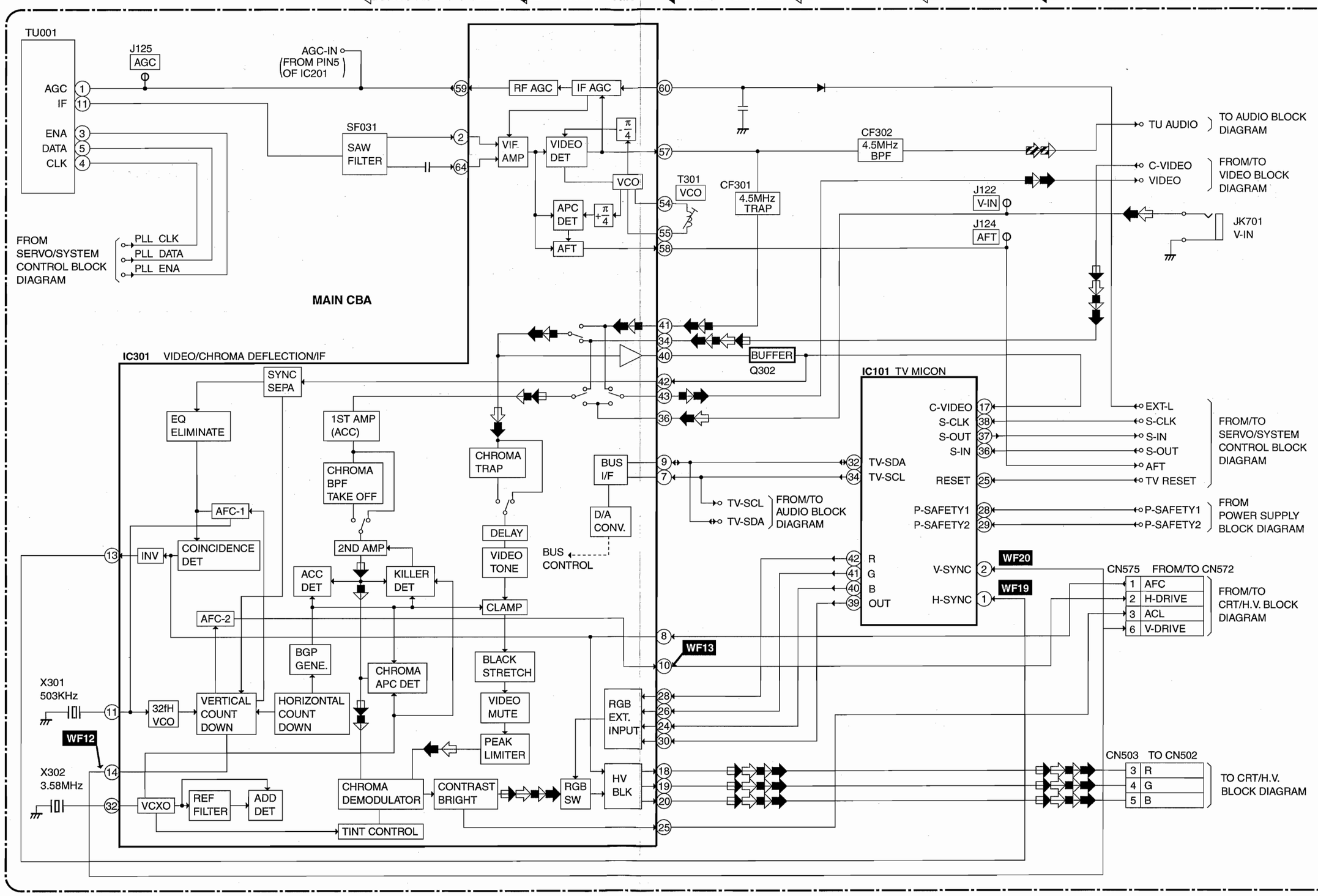


Audio Block Diagram

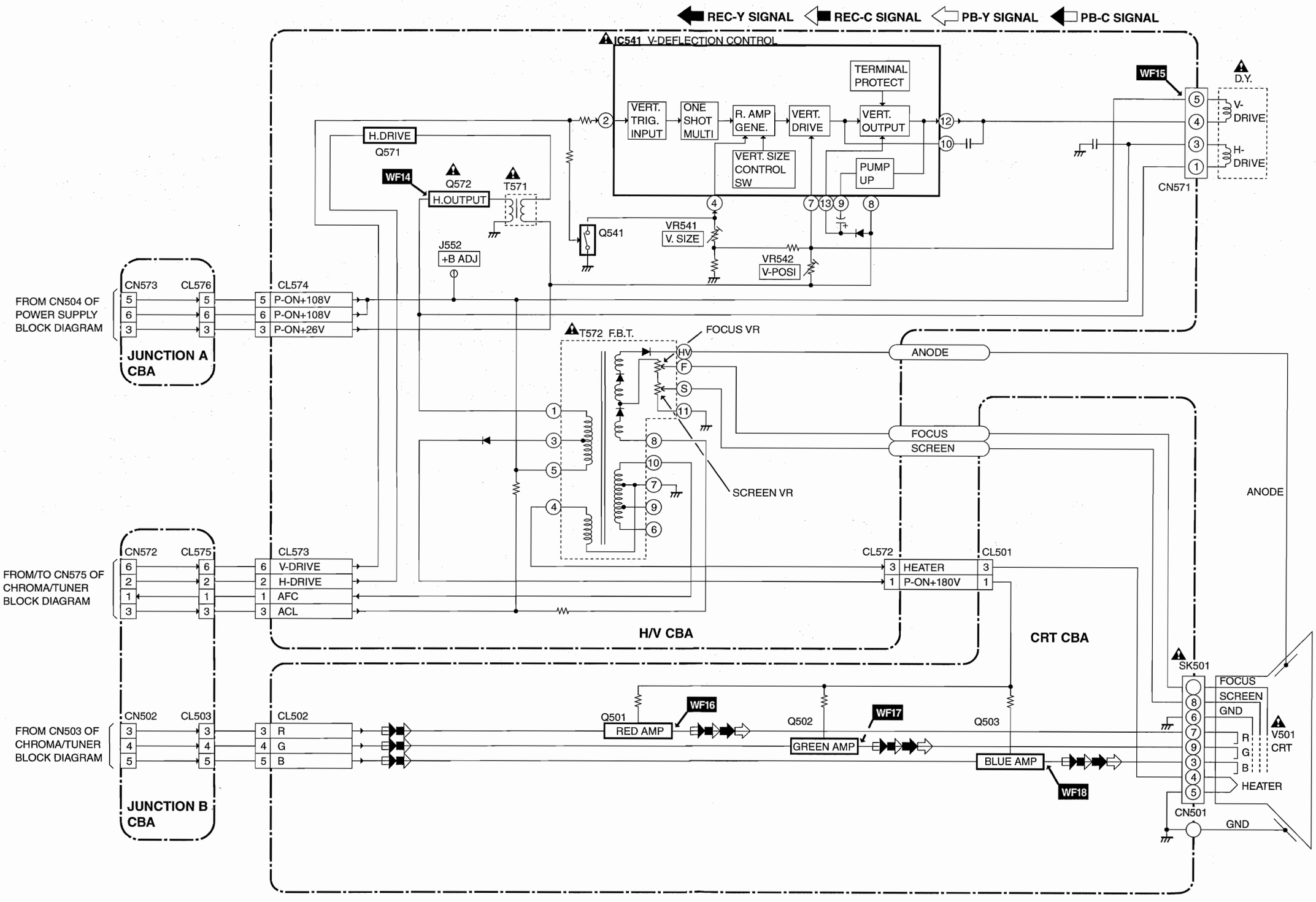


Chroma/Tuner Block Diagram

REC-AUDIO SIGNAL | PB-AUDIO SIGNAL | REC-Y SIGNAL | REC-C SIGNAL | PB-Y SIGNAL | PB-C SIGNAL | Mode : SP/REC



CRT/H.V. Block Diagram



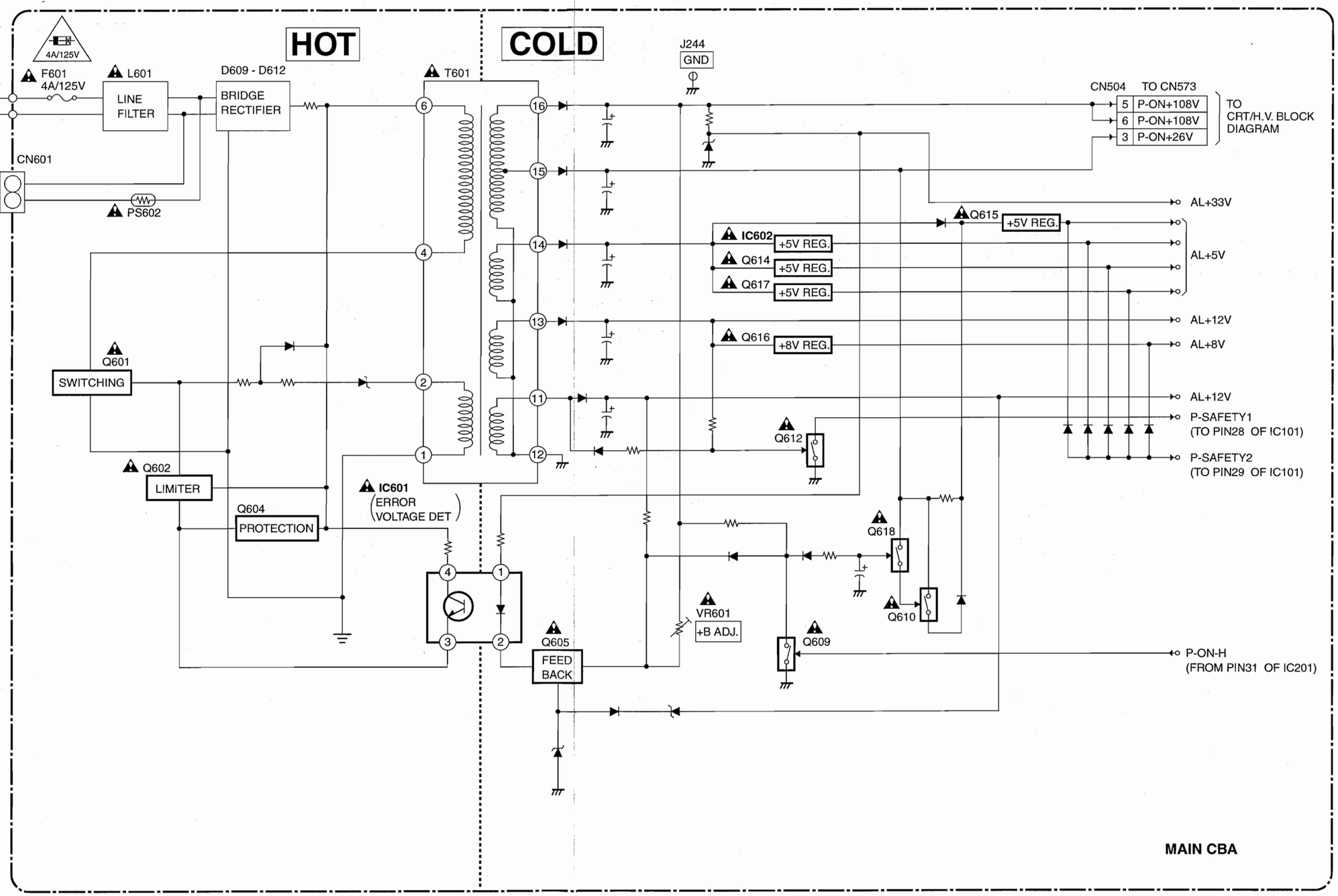
Power Supply Block Diagram

CAUTION !
Fixed voltage (or Autovoltage selectable) power supply circuit is used in this unit. If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

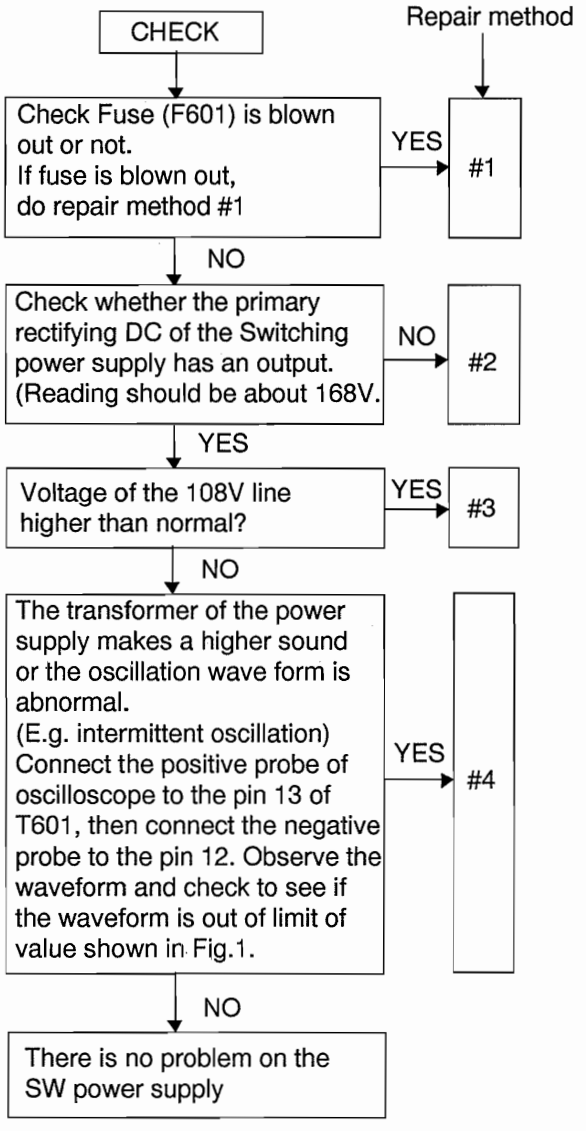
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



Power Supply Trouble Shooting Guide

It is highly recommended that a variable isolation transformer which can monitor current be used. (Alternatively a variable AC source which monitors current will do). Read directions below before power is added!


CHECK
Repair method
Check Fuse (F601) is blown out or not.
If fuse is blown out, do repair method #1
YES
#1
NO
Check whether the primary rectifying DC of the Switching power supply has an output. (Reading should be about 168V.
NO
#2
YES
Voltage of the 108V line higher than normal?
YES
#3
NO
The transformer of the power supply makes a higher sound or the oscillation wave form is abnormal.
(E.g. intermittent oscillation)
Connect the positive probe of oscilloscope to the pin 13 of T601, then connect the negative probe to the pin 12. Observe the waveform and check to see if the waveform is out of limit of value shown in Fig.1.
YES
#4
NO
There is no problem on the SW power supply

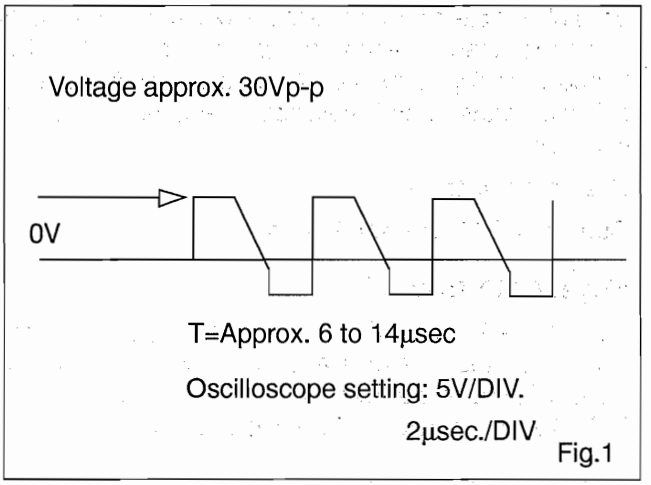


Fig.1

Repair method #1

(Power must be off)

Short circuit in the secondary side. check diode D615, D617, D618, D619 and D621, switching transistor (Q601), control transistor (Q602), diode and resistor replace as necessary.

Disconnect 108V diode (D621), 25V diode (D615), 8V diode (D618), 12V diode (D617, 12V diode (D619)) and Check the load continuity of 108V line, 25V line, 8V line, 12V line through a tester (resistance range).

If the tester indicates a lower resistance value around 0 ohm, the line is short-circuited.

Before repairing the switching power supply, find out the short-circuited area of such line and repair it.

If the tester does not indicate any low resistance value (around 0 ohm), no load is short-circuited and there is no problem.

2] Check for any defective parts while the secondary rectifying diodes are disconnected (D615, D617, D618, D619 and D621) perform a diode check in both forward and reverse directions through a tester.

Repair method #2

Check the primary rectifying diodes (D609-D612) as possible problems. Remove the above mentioned parts and check them. Perform check according to the step 1 and 2 of repair method #1 and check for defects following parts, then if necessary replace with factory originals..

R626 is open or not.

Q601 and D606 are short or not.

Repair method #3

The feedback circuit which is monitored by the output of D621 108V may not work and this may be regarded as a possible cause, remove IC601 (Photo Coupler), diode (D614) and transistor (Q605) check for defects.

Repair method #4

Check control circuitly which is connecting to Pin 2 and 1 of Switching Transformer T601.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}\mu F$).
5. All voltages are DC voltages unless otherwise specified.

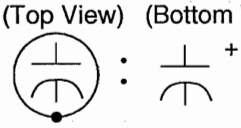
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

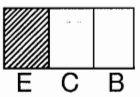
CBA Symbols

(Top View) (Bottom View)



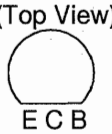
: Electrolytic Capacitor

(Bottom View)



: Transistor or Digital Transistor

(Top View)

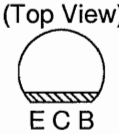


NPN Transistor

(Top View)

PNP Transistor

(Top View)



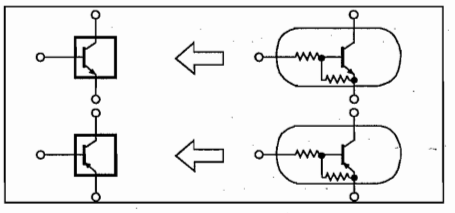
NPN Digital Transistor

(Top View)

PNP Digital Transistor

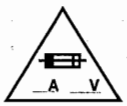
Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

2. **CAUTION:**

Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F01) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

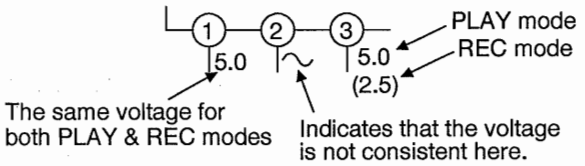
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).

(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Note: Mark "•" is a leadless (chip) component.

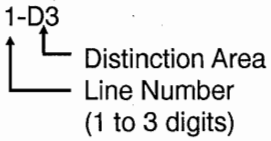
6. Mode: SP/REC

7. Voltage indications for PLAY and REC modes on the schematics are as shown below:



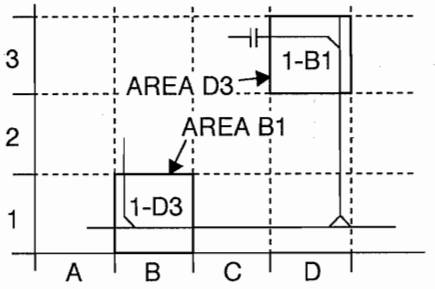
Unit: Volts

8. How to read converged lines



Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



9. Test Point Information

: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

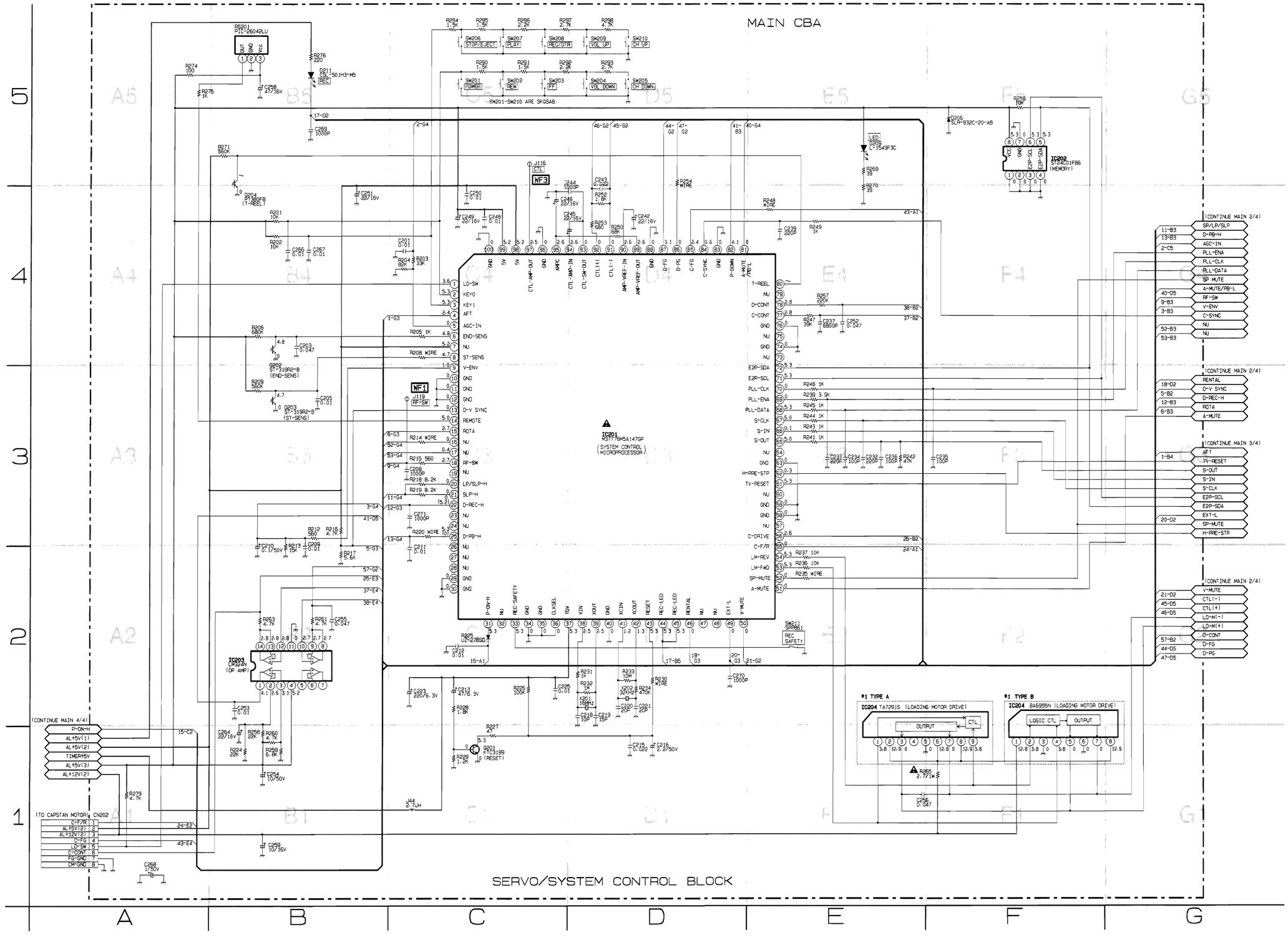
: Used to indicate a test point with a test pin.

Main 1/4 Schematic Diagram

∗1 Note:
The loading motor drive IC is either type A(TA7291S) or type B(BA6955N).
These two types are exchangeable parts.

MAIN 1/4

REF NO.	POSITION
ICS	
IC201	D-3
IC202	F-5
IC203	B-2
IC204	F-2
TRANSISTORS	
Q201	C-1
Q202	B-4
Q203	B-3
Q204	B-4
TEST POINTS	
J116	C-5
J119	C-3
CONNECTORS	
CN202	A-1



Main 2/4 Schematic Diagram

Luminance + Chrominance(REC)
Luminance(REC)
Chrominance(REC)
Audio(REC)

Luminance + Chrominance(Play)
Luminance(Play)
Chrominance(Play)
Audio(PLAY)

MAIN 2/4

REF NO.	POSITION
ICS	
IC401	J-3
IC470	J-2
IC801	M-2
TRANSISTORS	
Q401	K-3
Q402	L-4
Q403	L-4
Q404	K-5
Q405	L-5
Q406	I-5
Q801	M-1
Q851	J-3
Q852	I-3
Q853	I-3
Q854	I-3
Q855	I-3
TEST POINTS	
J101	K-1
J111	I-4
J125	M-3
CONNECTORS	
CN471	H-1
CN801	N-2
CN851	H-4
CN852	H-3

VIDEO/AUDIO BLOCK MAIN CBA

HEAD AMP BLOCK

TUNER BLOCK

AUDIO AMP BLOCK

*UNLESS OTHERWISE SPECIFIED,
NPN TRANSISTORS ARE KTC3199.
PNP TRANSISTORS ARE KTA1267.
DIODES ARE 1N4148.

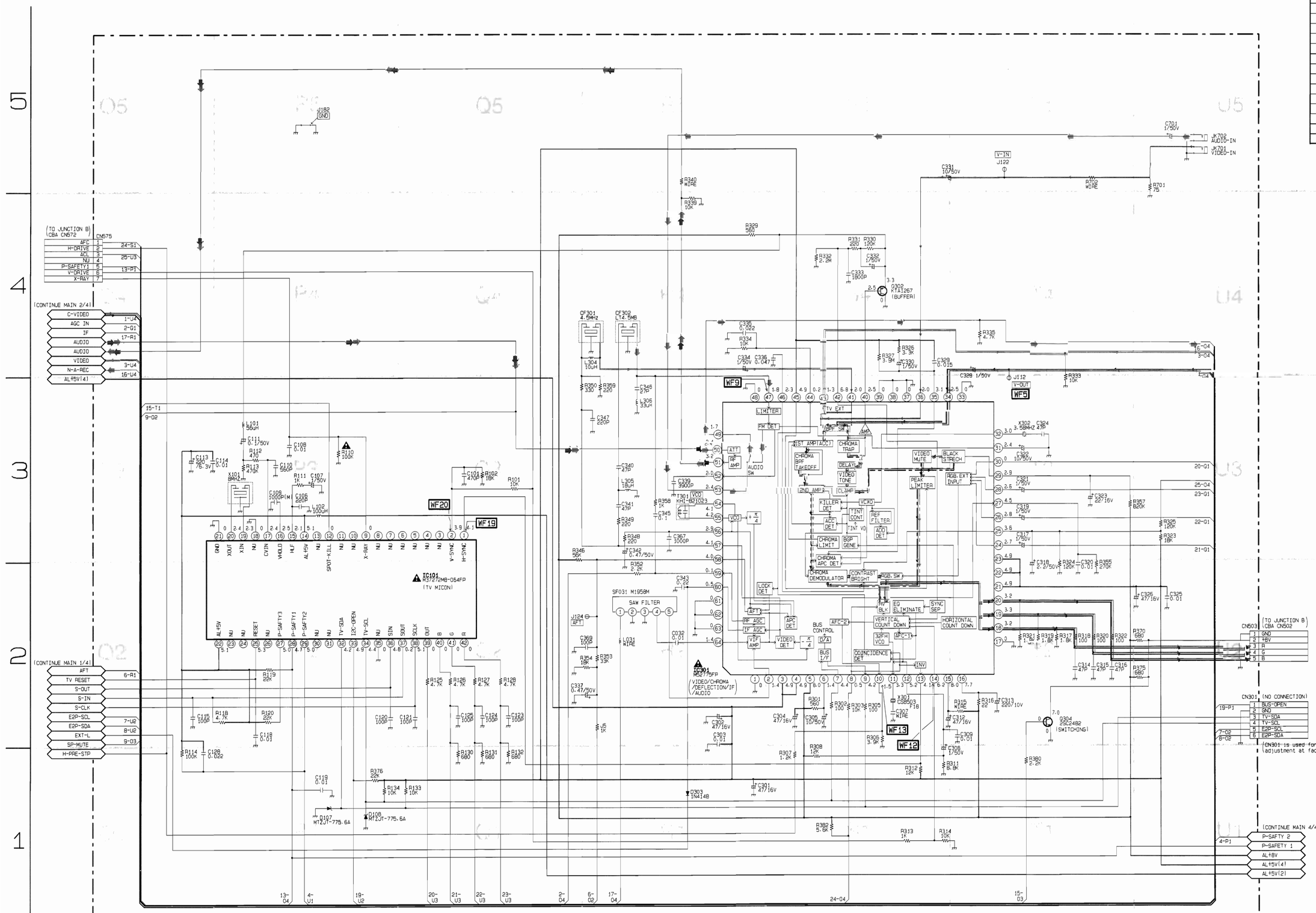
Main 3/4 Schematic Diagram

Luminance + Chrominance(REC)
Luminance(REC)
Chrominance(REC)
Audio(REC)

Luminance + Chrominance(Play)
Luminance(Play)
Chrominance(Play)
Audio(PLAY)

MAIN 3/4

REF NO.	POSITION
ICS	
IC101	Q-2
IC301	R-2
TRANSISTORS	
Q302	S-4
Q304	T-2
TEST POINTS	
J112	T-3
J122	T-5
J124	R-2
J182	P-5
CONNECTORS	
CN301	U-2
CN503	U-2
CN575	O-4



1-9-9 1-9-10 1-9-11

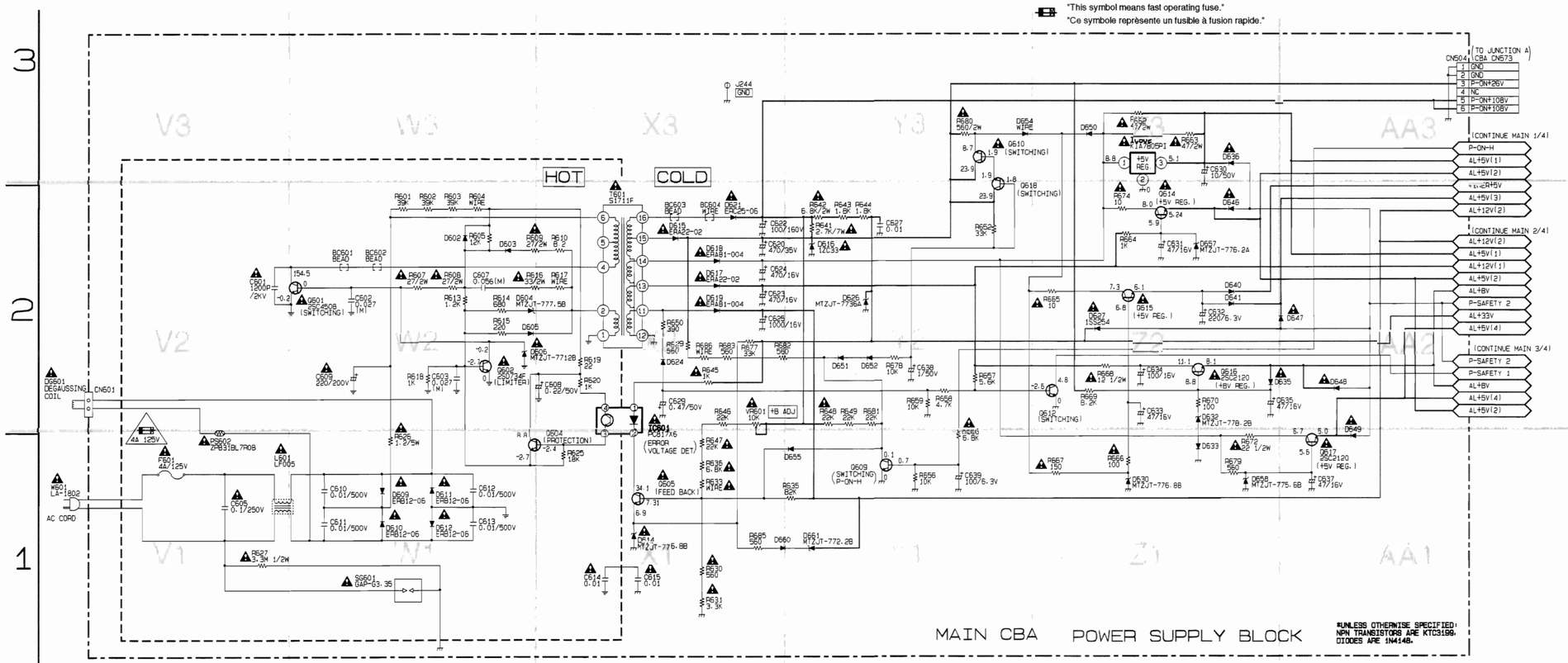
B5900SCM3

MAIN 4/4 Schematic Diagram

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
4A/125V
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

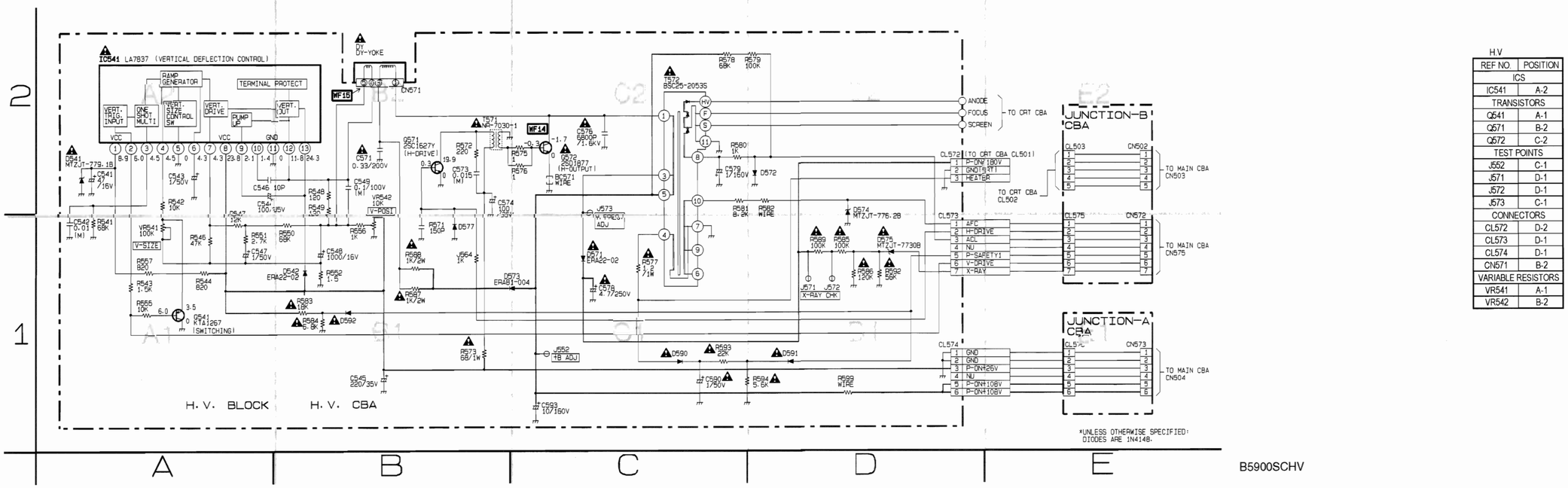
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



B5900SCM4

MAIN 4/4	
REF NO.	POSITION
ICS	
IC601	X-2
IC602	Z-3
TRANSISTORS	
Q601	W-2
Q602	W-2
Q604	X-2
Q605	X-1
Q609	Y-1
Q610	Y-3
Q612	Z-2
Q614	Z-2
Q615	Z-2
Q616	Z-2
Q617	AA-1
Q618	Y-3
TEST POINTS	
J244	X-3
CONNECTORS	
CN504	AA-3
VARIABLE RESISTORS	
VR601	X-2

H/V Schematic Diagram



B5900SCHV

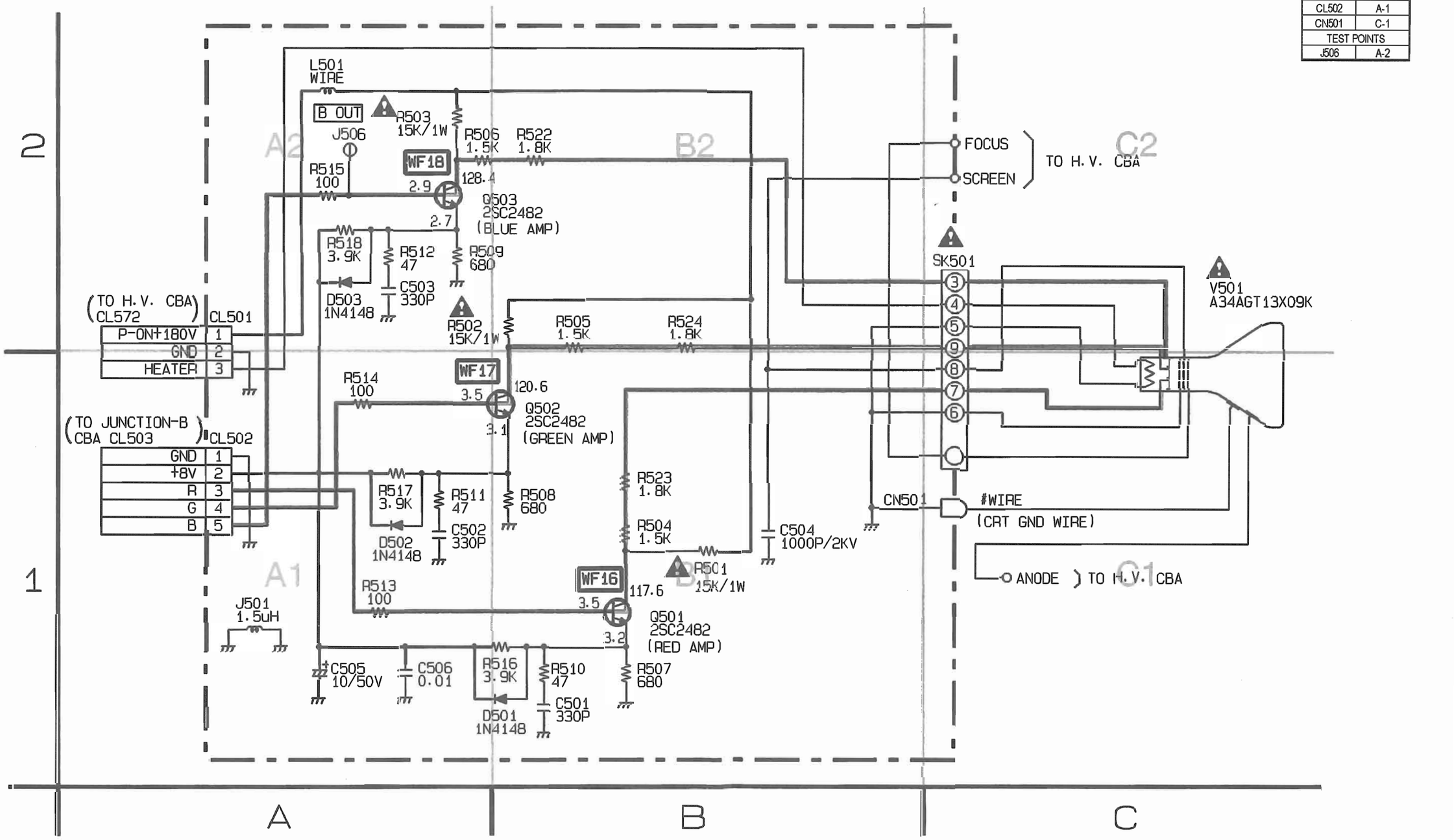
H.V	
REF NO.	POSITION
ICS	
IC541	A-2
TRANSISTORS	
Q541	A-1
Q571	B-2
Q572	C-2
TEST POINTS	
J552	C-1
J571	D-1
J572	D-1
J573	C-1
CONNECTORS	
CL572	D-2
CL573	D-1
CL574	D-1
CN571	B-2
VARIABLE RESISTORS	
VR541	A-1
VR542	B-2

CRT Schematic Diagram

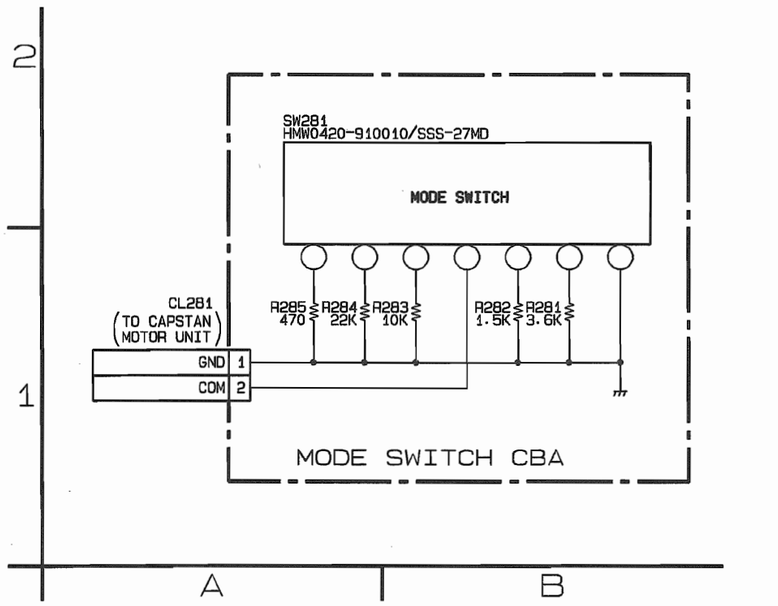
Luminance + Chrominance(REC)
Luminance(REC)
Chrominance(REC)
Luminance + Chrominance(Play)
Luminance(Play)
Chrominance(Play)

CRT

REF NO.	POSITION
TRANSISTORS	
Q501	B-1
Q502	B-1
Q503	A-2
CONNECTORS	
CL501	A-2
CL502	A-1
CN501	C-1
TEST POINTS	
J506	A-2

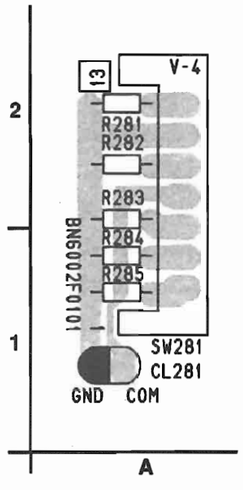


Mode SW Schematic Diagram

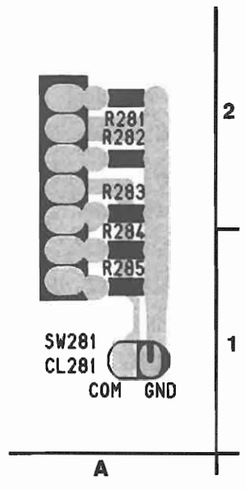


B5900SCMS

Mode SW CBA Top View



Mode SW CBA Bottom View



BN6002F01011

JUNCTION A CBA Top View

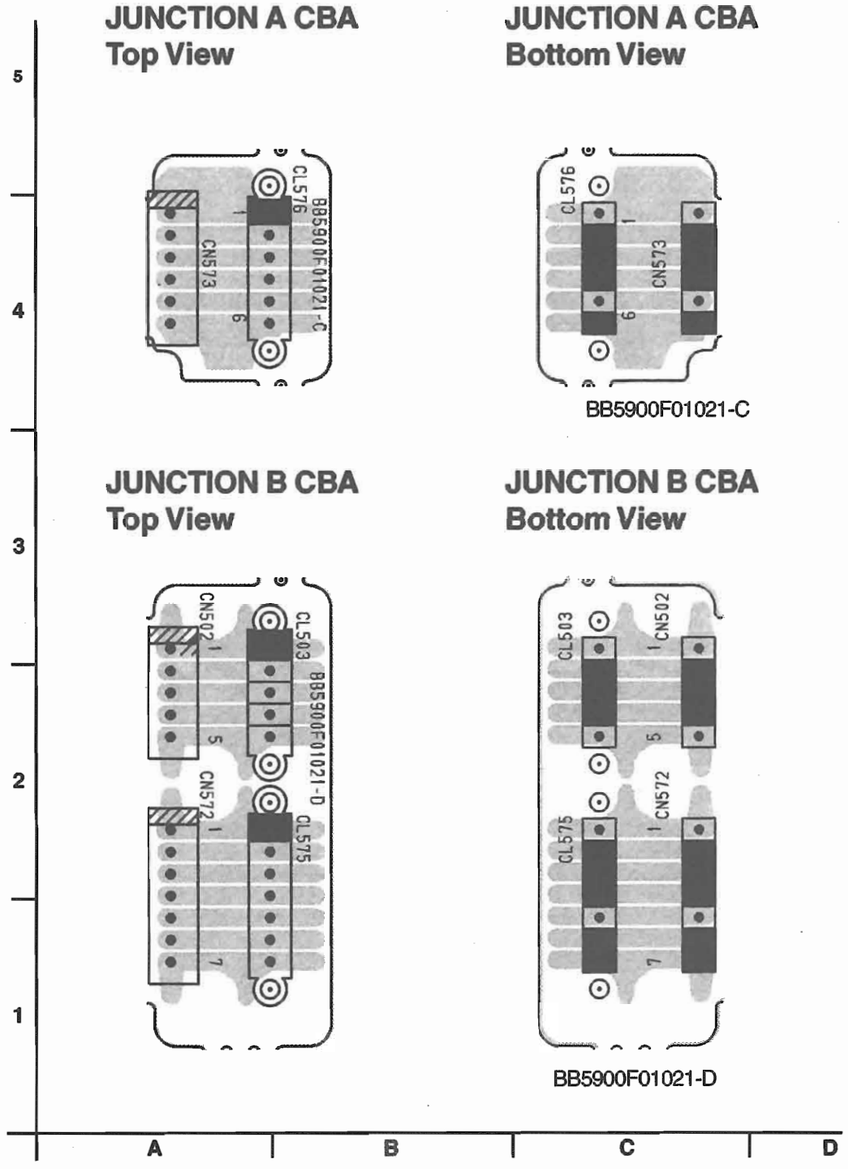
JUNCTION A CBA Bottom View

BB5900F01021-C

JUNCTION B CBA Top View

JUNCTION B CBA Bottom View

BB5900F01021-D

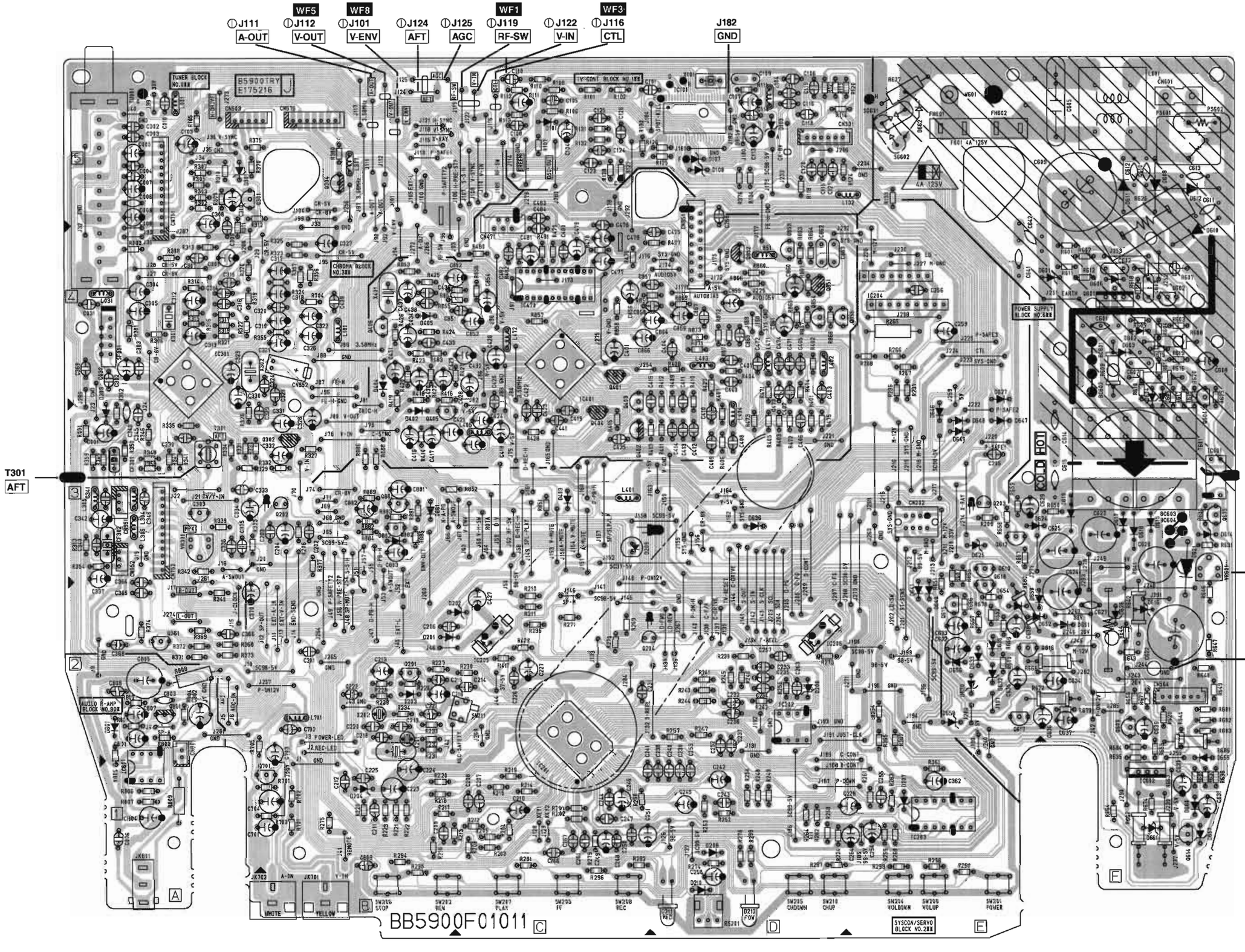


Main CBA Top View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
4A/125V
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



MAIN CBA	
REF NO.	POSITION
ICS	
IC101	D-5
IC201	C-1
IC202	D-2
IC203	E-1
IC204	E-4
IC301	A-4
IC401	C-4
IC470	C-4
IC601	F-3
IC602	F-1
IC801	A-1
TRANSISTORS	
Q201	B-2
Q202	B-3
Q203	E-3
Q204	D-2
Q302	B-3
Q304	B-5
Q401	C-4
Q402	C-3
Q403	C-4
Q404	C-3
Q405	B-3
Q406	B-4
Q601	F-4
Q602	F-4
Q604	F-3
Q605	F-3
Q609	F-2
Q610	E-3
Q612	E-3
Q614	F-1
Q615	E-2
Q616	E-2
Q617	E-2
Q618	E-2
Q801	A-2
Q851	D-4
Q852	D-4
Q853	D-4
Q854	D-4
Q855	D-4
TEST POINTS	
J101	B-5
J111	B-5
J112	B-5
J116	C-5
J119	C-5
J122	C-5
J124	B-5
J125	B-5
J244	F-2
CONNECTORS	
CN202	E-3
CN301	D-5
CN471	C-4
CN503	A-5
CN504	F-2
CN575	B-5
CN801	A-2
CN851	D-5
CN852	B-4
VARIABLE RESISTORS	
VR601	F-3

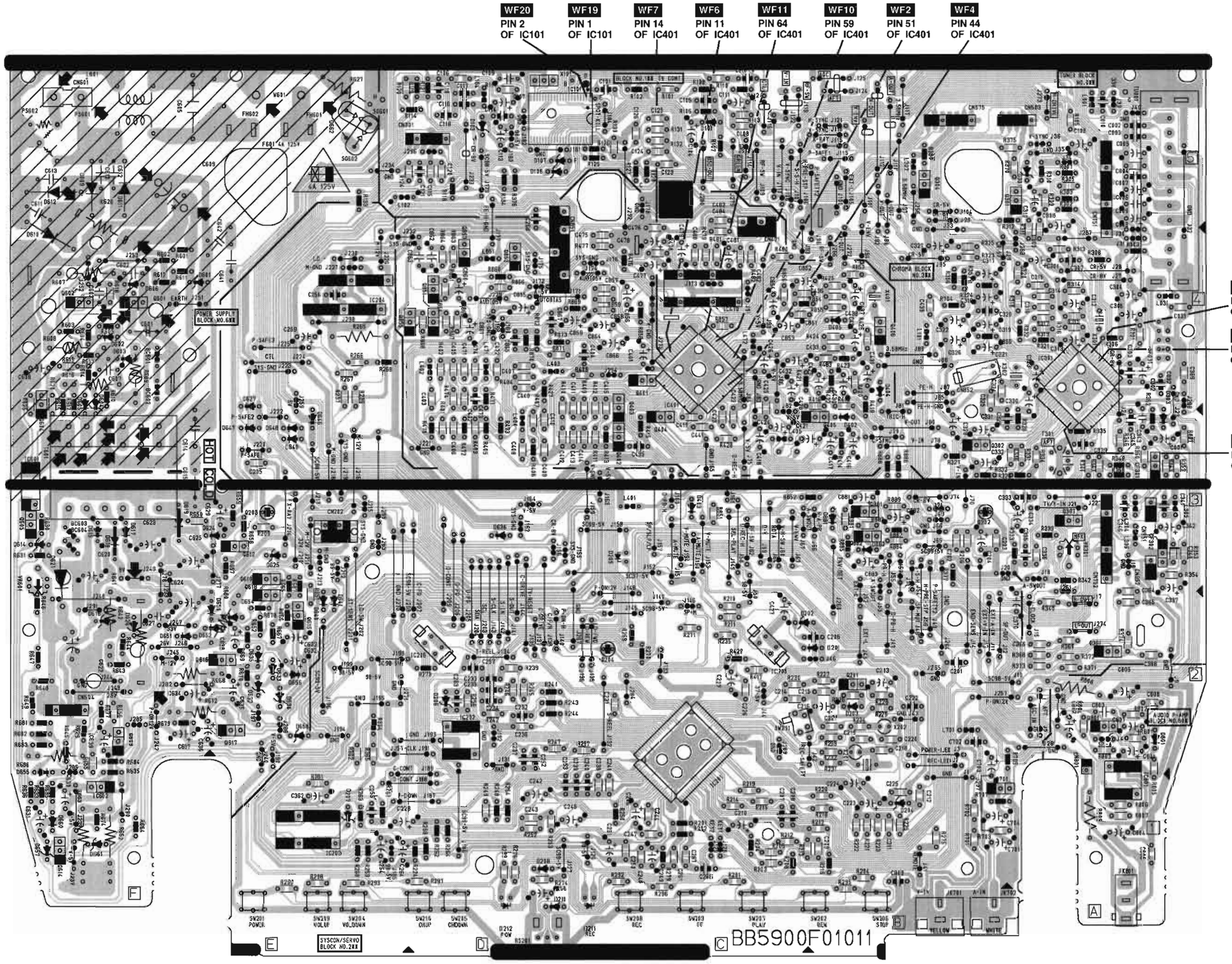
Main CBA Bottom View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

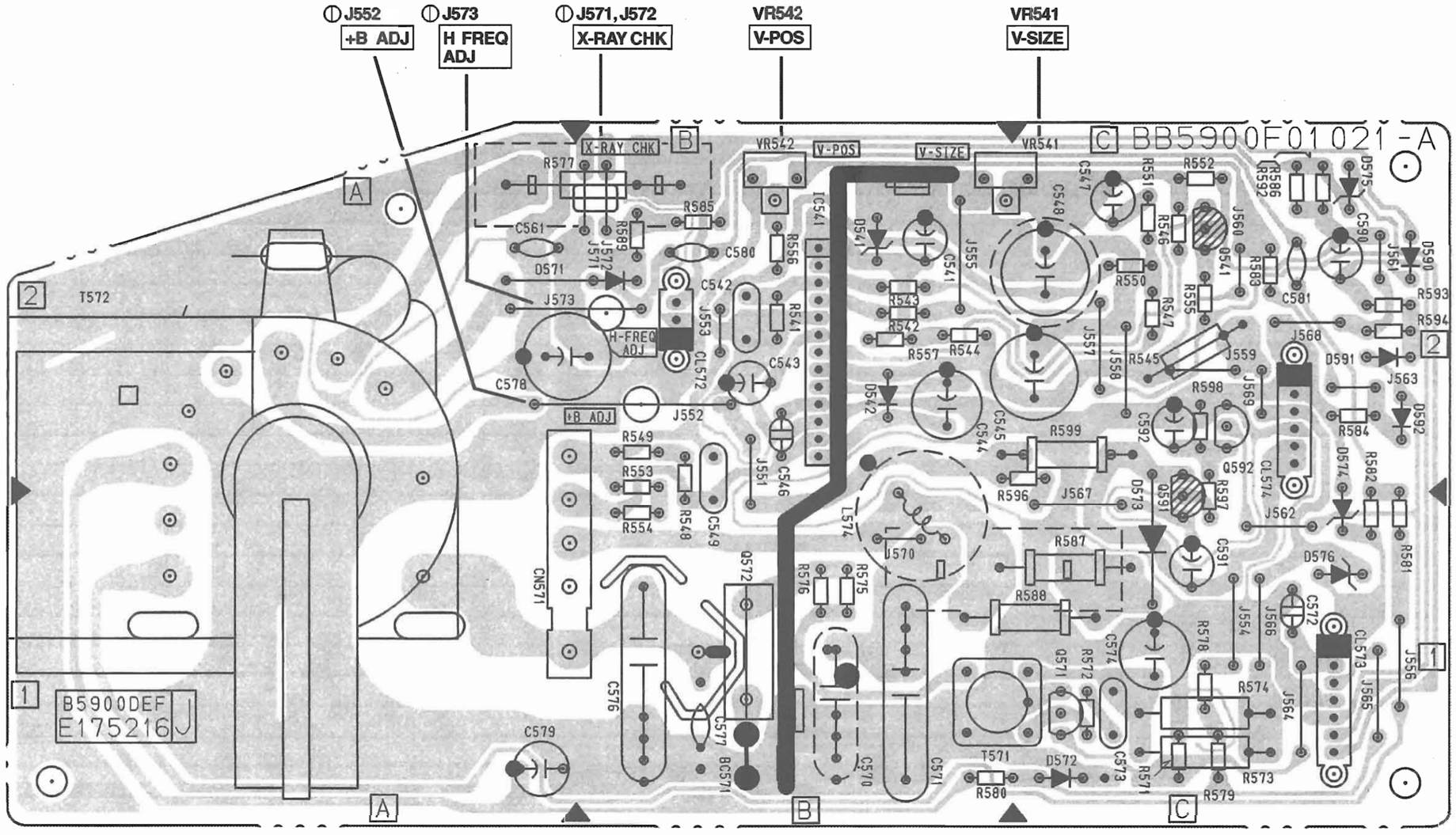
4A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



H/V CBA Top View

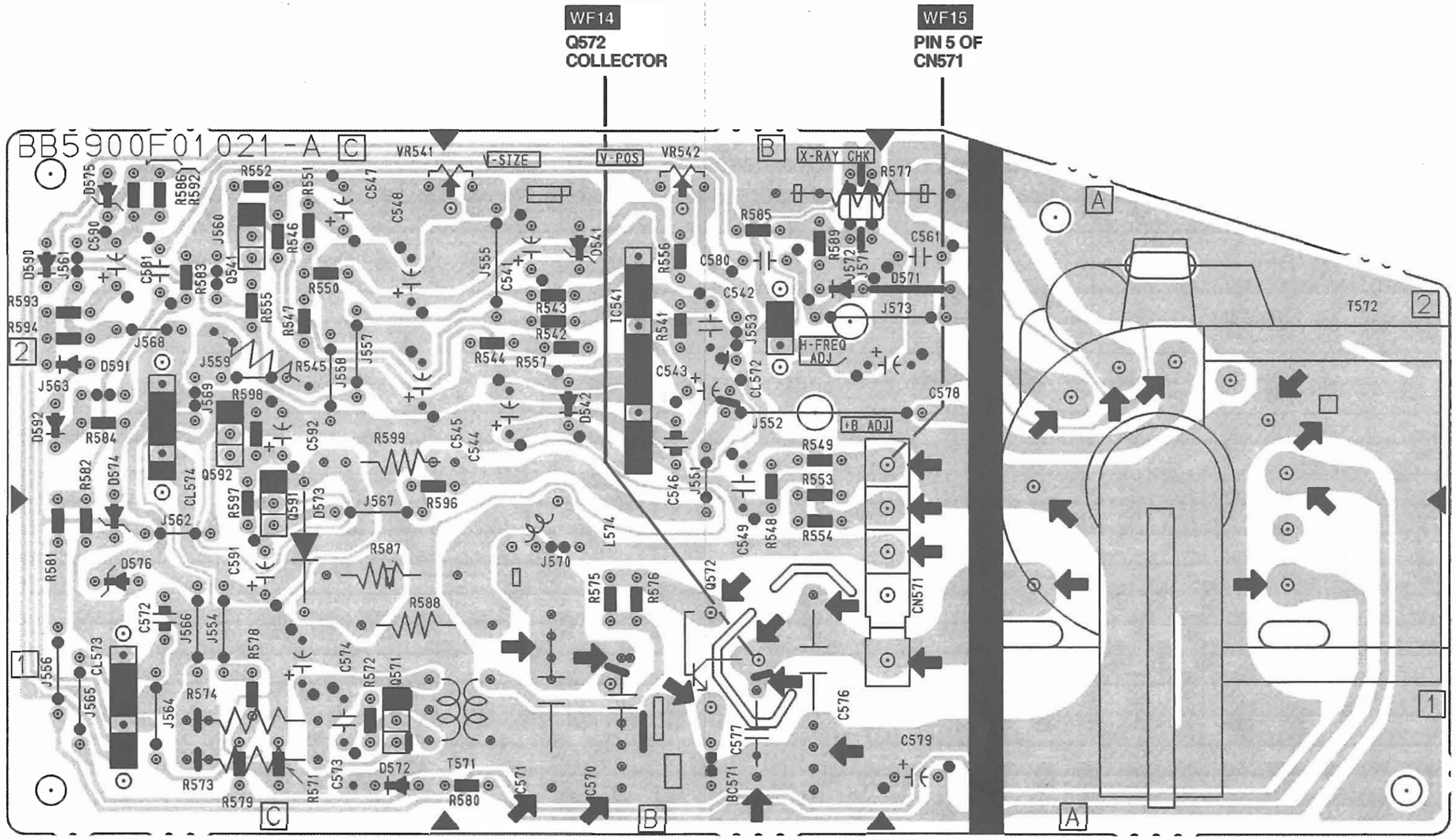


BB5900F01021-A

H/V

REF NO.	POSITION
ICS	
IC541	B-2
TRANSISTORS	
Q541	C-2
Q571	C-1
Q572	B-1
TEST POINTS	
J552	B-2
J571	B-2
J572	B-2
J573	A-2
CL572	B-2
CL573	C-1
CL574	C-2
CN571	A-1
VARIABLE RESISTORS	
VR541	C-2
VR542	B-2

H/V CBA Bottom View



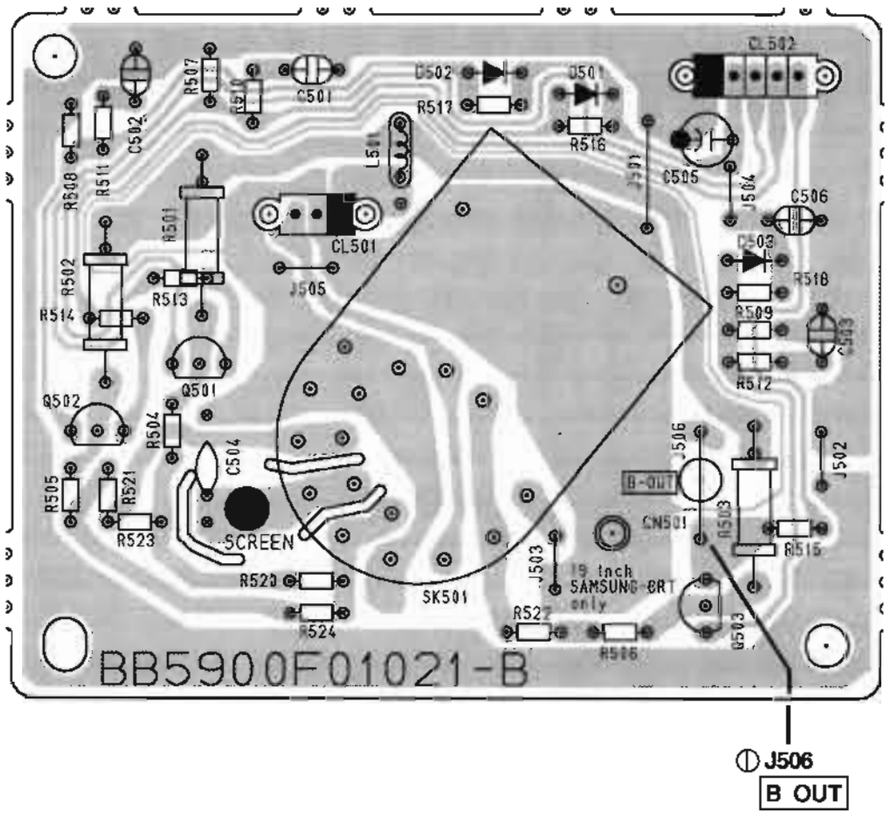
BB5900F01021-A

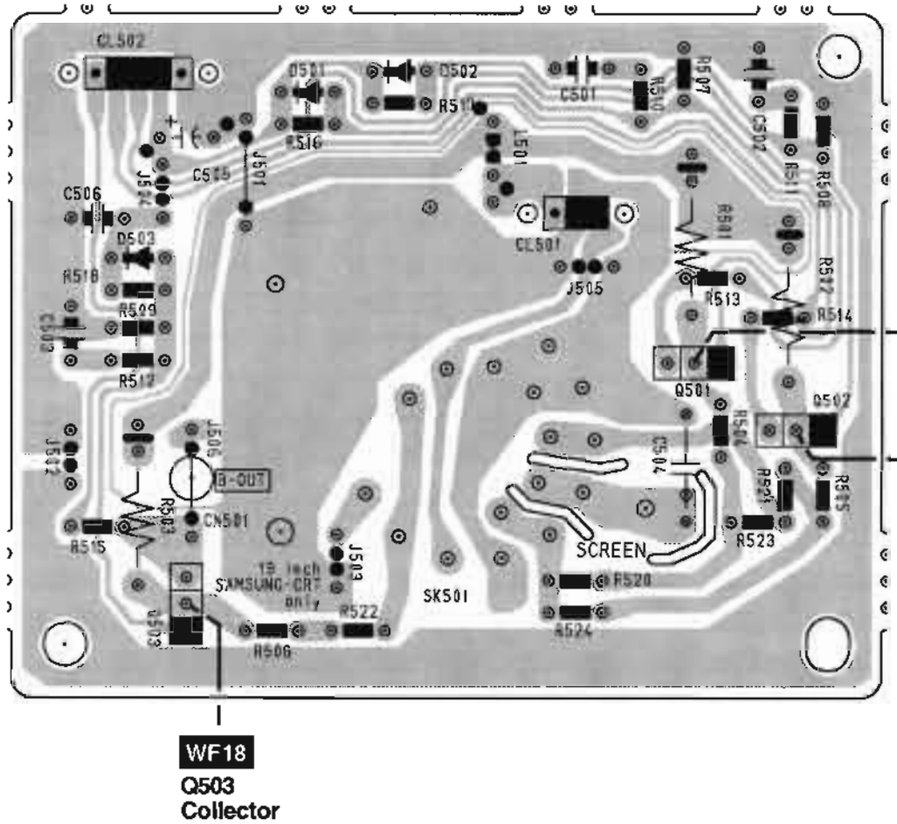
CRT CBA Top View

CRT CBA Bottom View

CRT

REF NO.	POSITION
TRANSISTORS	
Q501	B-2
Q502	A-2
Q503	C-1
TEST POINTS	
J506	C-2
CONNECTORS	
CL501	B-2
CL502	C-3
CN501	C-1





BB5900F01021-B

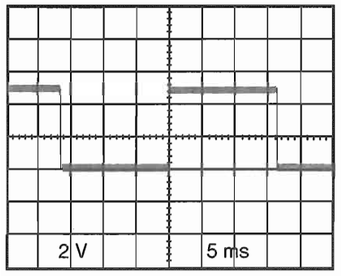
WAVEFORMS

WAVEFORM NOTES

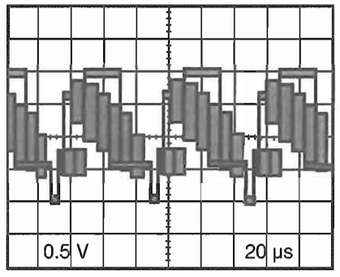
INPUT: NTSC COLOR BAR SIGNAL

OTHER CONTROLS : CENTER POSITION

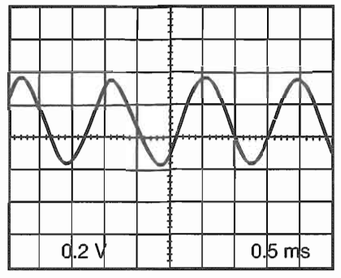
VOLTAGES SHOWN ARE RANGE OF OSCILLOSCOPE SETTING



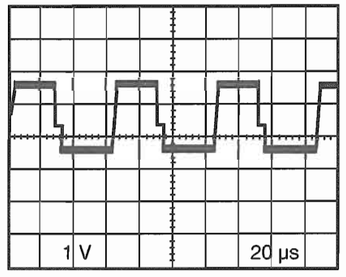
WF1 MAIN 1/4 SCHEMATIC DIAGRAM
J119 RF SW



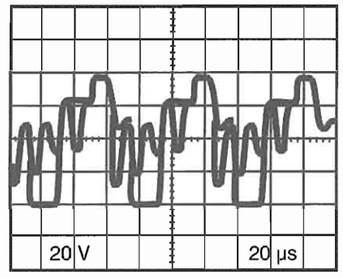
WF5 MAIN 3/4 SCHEMATIC DIAGRAM
J112 V-OUT



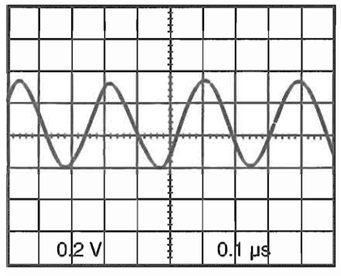
WF9 MAIN 3/4 SCHEMATIC DIAGRAM
IC301 PIN 47



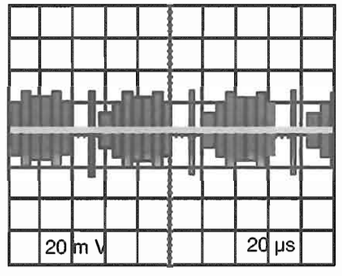
WF13 MAIN 3/4 SCHEMATIC DIAGRAM
IC301 PIN 10



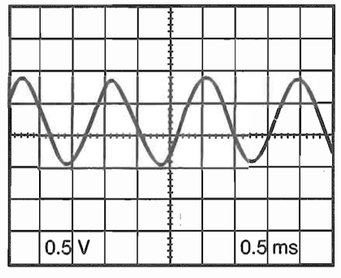
WF17 CRT SCHEMATIC DIAGRAM
Q502 COLLECTOR



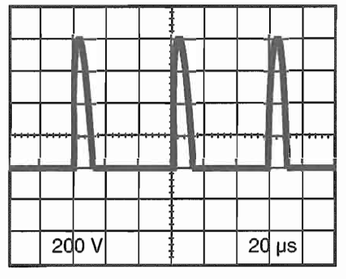
WF2 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 51



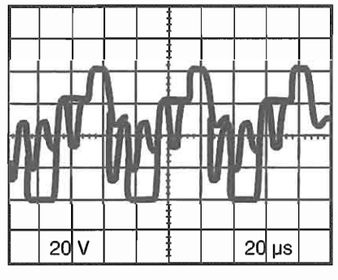
WF6 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 11



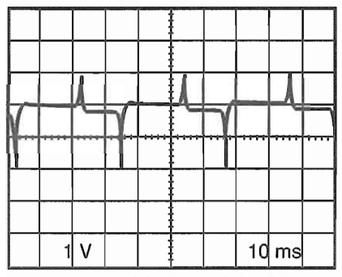
WF10 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 59



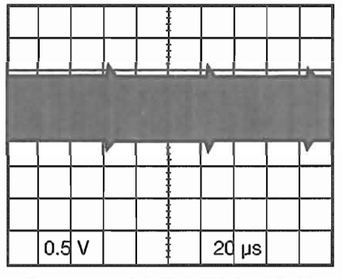
WF14 H/V SCHEMATIC DIAGRAM
Q572 COLLECTOR



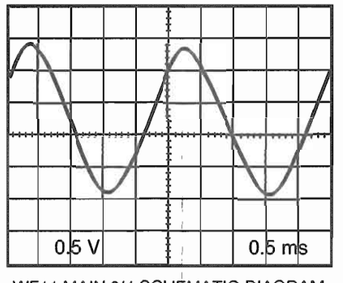
WF18 CRT SCHEMATIC DIAGRAM
Q503 COLLECTOR



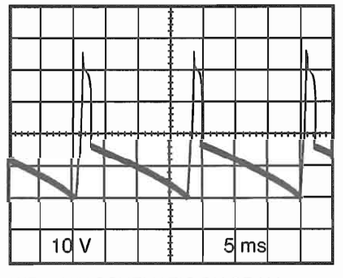
WF3 MAIN 1/4 SCHEMATIC DIAGRAM
J116 CTL



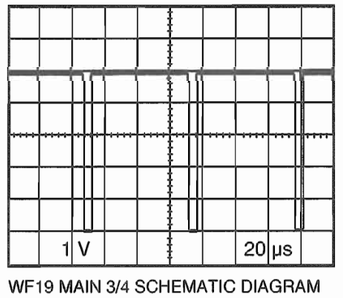
WF7 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 14 Y REC



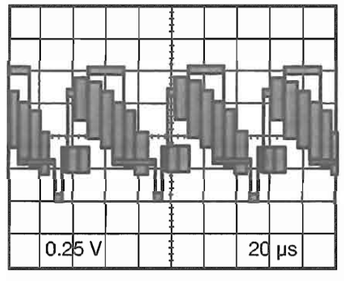
WF11 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 64



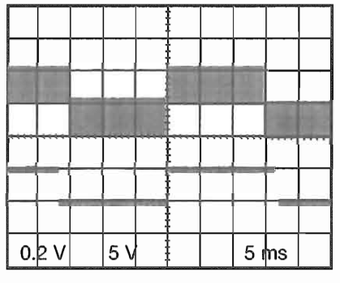
WF15 H/V SCHEMATIC DIAGRAM
CN571 PIN 5



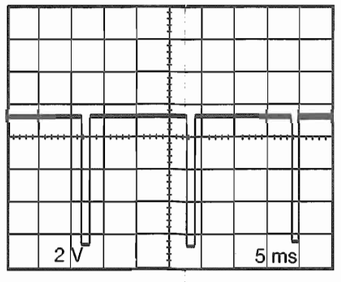
WF19 MAIN 3/4 SCHEMATIC DIAGRAM
IC101 PIN 1



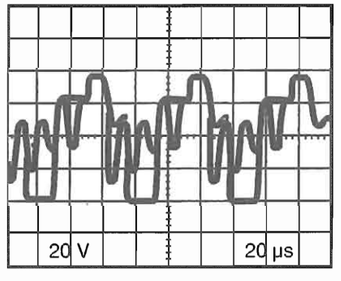
WF4 MAIN 2/4 SCHEMATIC DIAGRAM
IC401 PIN 44



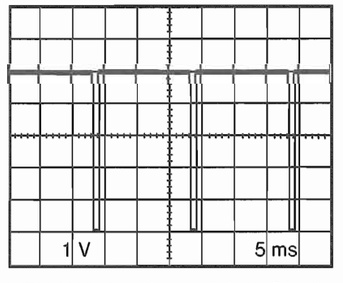
Upper: WF8 Lower: WF1
MAIN 2/4 SCHEMATIC DIAGRAM J101 V-ENV



WF12 MAIN 3/4 SCHEMATIC DIAGRAM
IC301 PIN 14

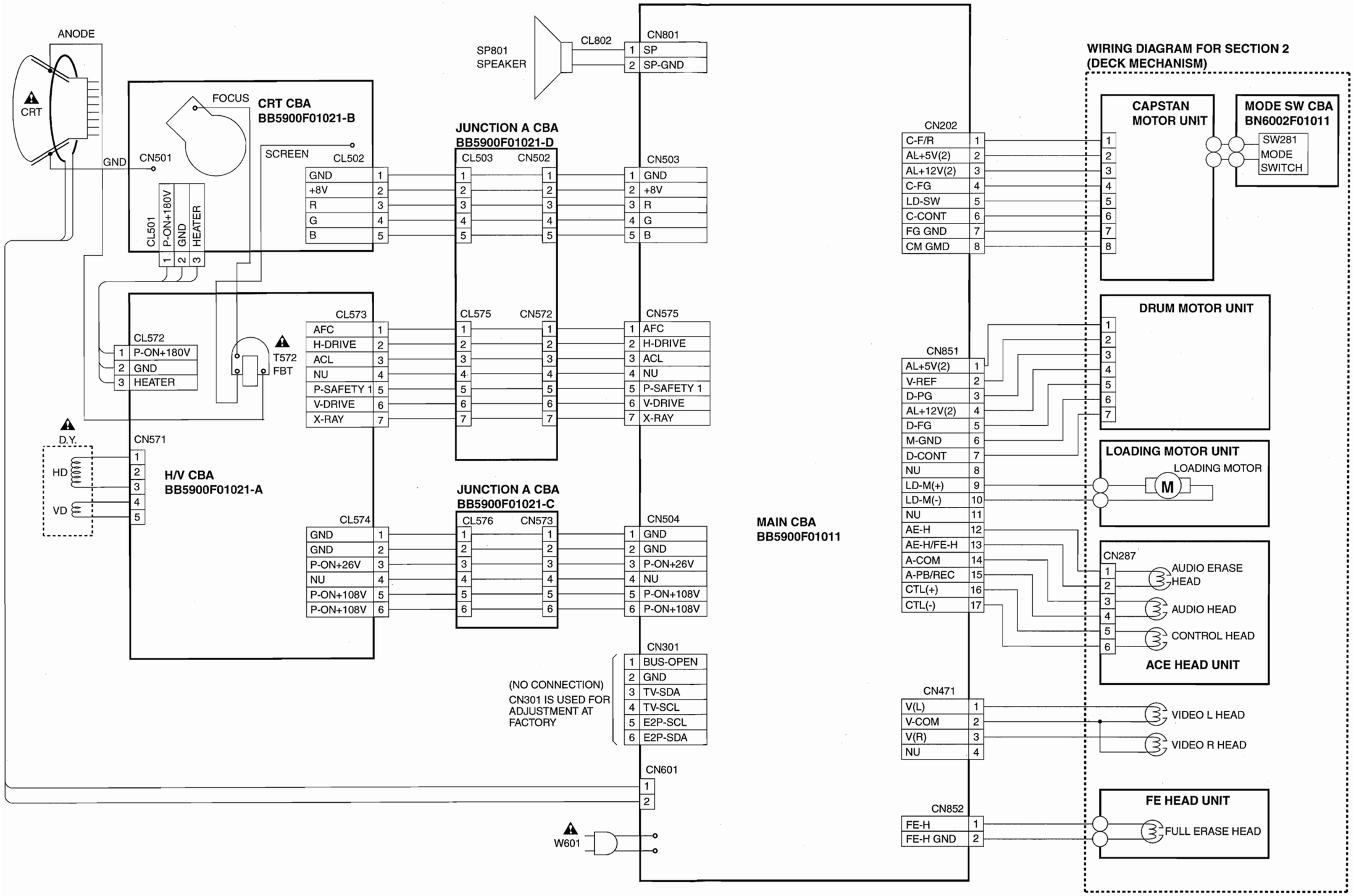


WF16 CRT SCHEMATIC DIAGRAM
Q501 COLLECTOR



WF20 MAIN 3/4 SCHEMATIC DIAGRAM
IC101 PIN 2

WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

Chart 1

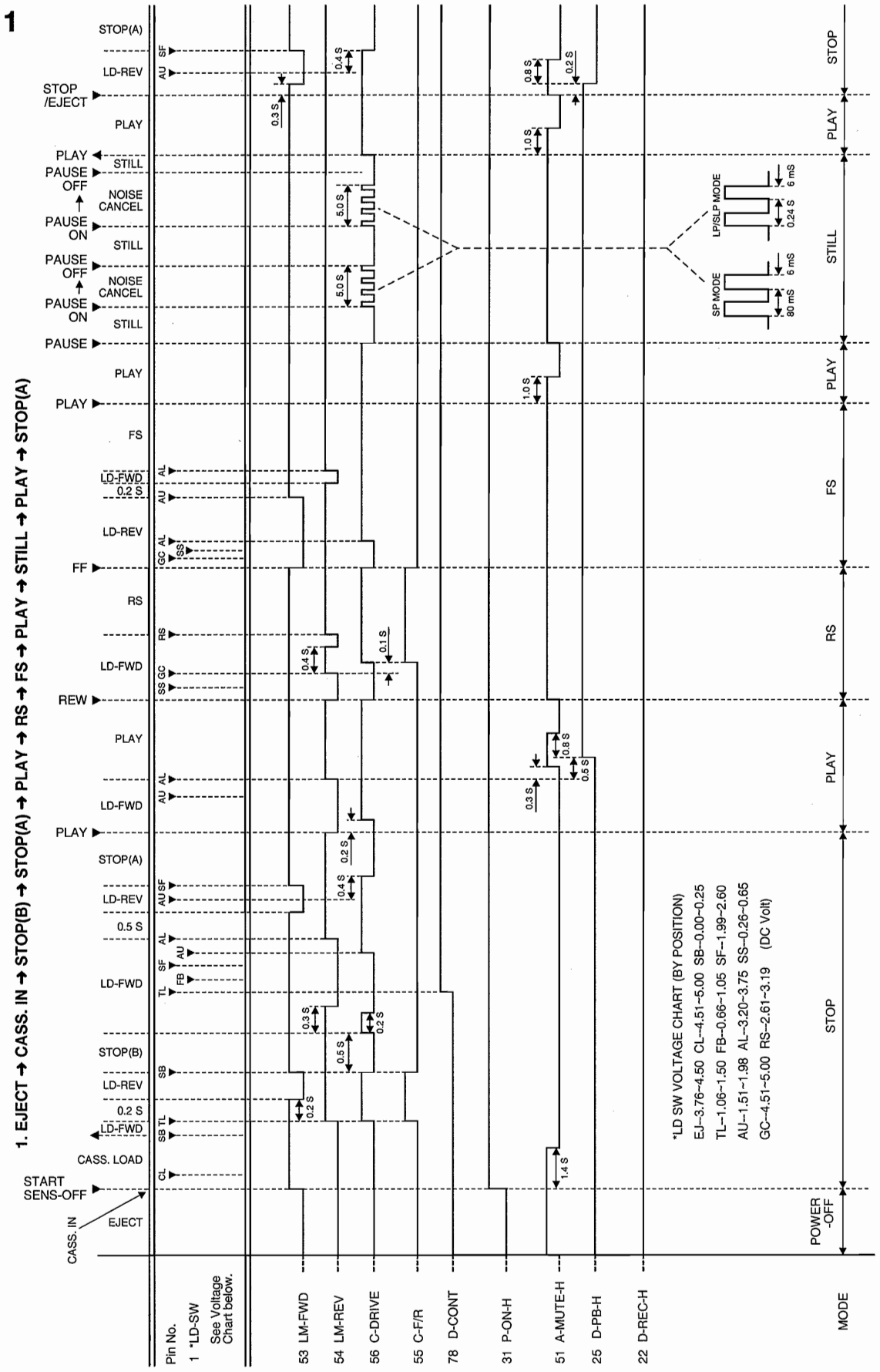
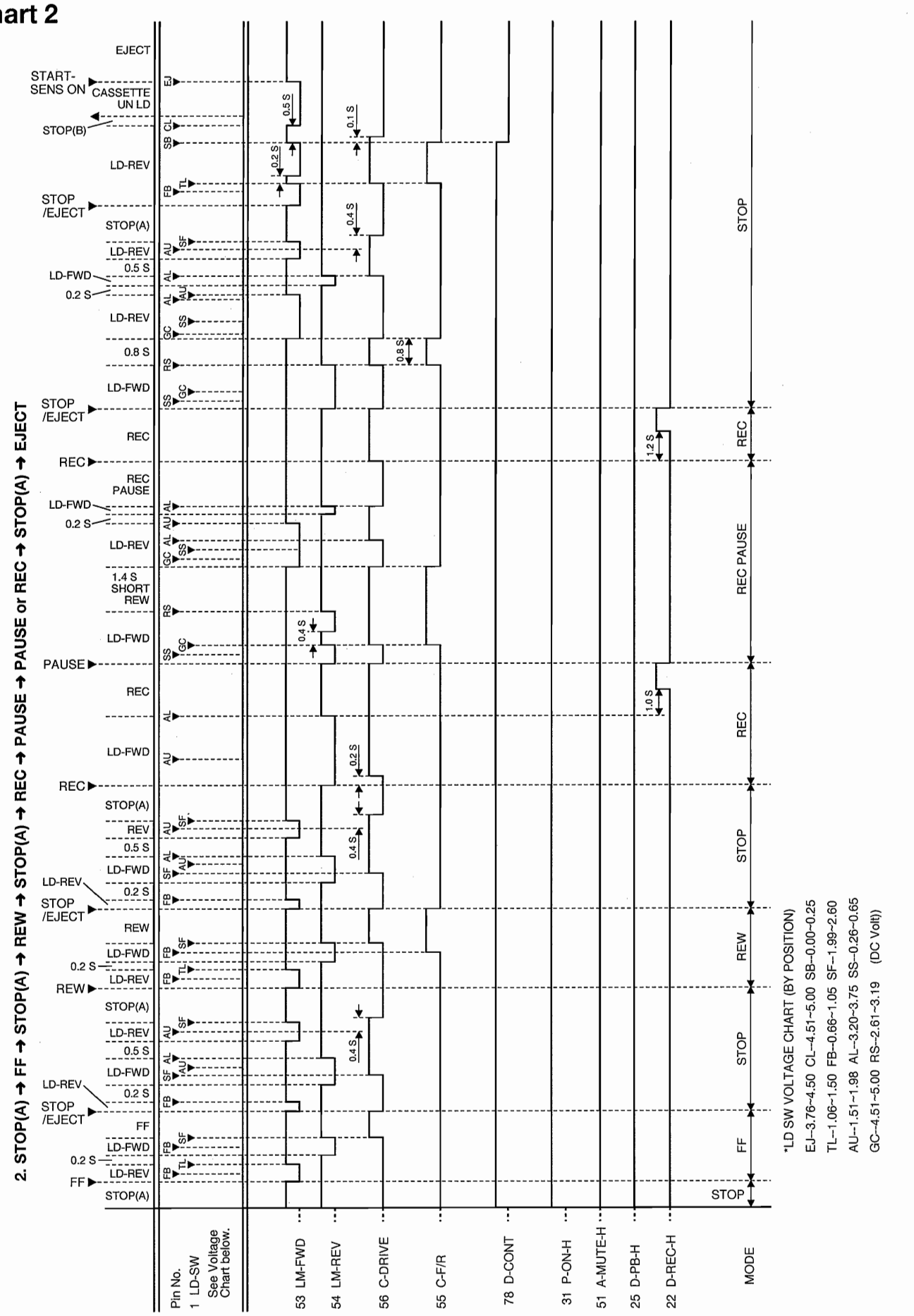


Chart 2



IC PIN FUNCTIONS

IC 101 (TV Micro Computer)

Pin No.	In/ Out	Signal Name	Function	Active Level
1	I	H-SYNC	Horizontal Synchronized Pulse Input	L
2	I	V-SYNC	Vertical Synchronized Pulse Input	L
3			Not used	
4			Not used	
5			Not used	
6			Not used	
7			Not used	
8			Not used	
9	I	X-RAY	X-Ray Protection	A/D
10			Not used	
11			Not used	
12		SPOT KILL	Spot Kill	
13			Not used	
14		ALL+5V	All + 5V	
15		HLF	HLF	
16	I	VHOLD	VHOLD	
17	I	CVIN	Video Signal Input	I
18			Not Used	
19	I	XIN	Oscillator Input	
20	O	XOUT	Oscillator Output	
21		GND	GND	
22		ALL+5V	All +5V	
23			Not Used	
24			Not Used	
25	I	RESET	Reset	I
26			Not Used	
27		P-SAFETY 3	Protection for Power Supply 3	
28	I	P-SAFETY 1	Protection for Power Supply 1	
29	I	P-SAFETY 2	Protection for Power Supply 2	
30			Not Used	
31			Not Used	
32	I/O	TV-SDA	Chroma IC Communication Data	
33		12C-OPEN	Judgment for White Balance Adjustment Mode	
34	O	TV-SCL	Chroma IC Communication Clock	
35			Not Used	
36	I	SIN	Serial Data Input	
37	O	SOUT	Serial Data Output	
38	I	SCLK	Serial Clock Input	
39	O	OUT	Picture Shut off Signal	
40	O	B	Blue Output	
41	O	G	Green Output	
42	O	R	Red Output	

IC201 (VCR-Micro Computer)

Pin No.	In/ Out	Signal Name	Function	Active Level
1	I	LD-SW	Loading SW Input	
2	I	KEY 0	Key 0 Input	
3	I	KEY 1	Key 1 Input	
4	I	AFT	AFT Input	
5	I	AGC IN	AGC Input for Adjustment	
6	I	END-SENS	End-Sensor	
7			Not Used	
8	I	ST-SENS	Start Sensor	
9	O	V-ENV	Video Envelope Input	
10		GND		
11		GND		
12		GND		
13	O	D-V SYNC	Artificial V-Sync Output	
14	I	REMOTE	Remote control Input	
15	O	ROTA	Rota output	
16			Not Used	

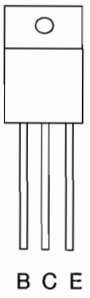
Pin No.	In/ Out	Signal Name	Function	Active Level
17			Not Used	
18	O	RF-SW	RF-Switching Output	
19			Not Used	
20	O	LP/SLP-H	Tape Speed Output	
21	O	SLP-H	Tape Speed Output	
22	O	D-REC-H	Recording Output	
23			Not Used	
24			Not Used	
25	O	D-PB-H	Playback output	
26			Not Used	
27			Not Used	
28			Not Used	
29		GND		
30		GND		
31	O	P-ON-H	P-On Output	
32	O	TRICK-H	Trick Play	
33	I	REC-SAFETY	Rec-Tab Detection	
34		GND		
35		GND		
36		GND		
37		T5V	T5V In	
38	I	X in	Oscillator Input	
39	O	X Out	Oscillator Output	
40		GND		
41	I	X cin	Oscillator C Input	
42	O	X cout	Oscillator C Output	
43	I	RESET	Reset	
44	O	REC-LED	Record LED	
45	O	REC-LED	Record LED	
46	O	RENTAL	Rental Position Output	
47			Not Used	
48			Not Used	
49	O	EXT-L	External Input Selection Output	
50	O	V-MUTE	Video mute Output	
51	O	A-MUTE	Audio Mute Output	
52	O	SP-MUTE	Speaker Mute	
53	O	LD-FWD	LD-Fwd Output	
54	O	LD-REW	LD-Rew Output	

Pin No.	In/ Out	Signal Name	Function	Active Level
55	O	C-F/R	Capstan Direction Output	
56	O	C-DRIVE	Capstan Drive Output	
57			Not Used	
58		GND		
59		GND		
60			Not Used	
61	O	TV-RESET	TV Reset Output	
62		H-PRE-STP		
63		GND		
64			Not Used	
65	O	S-OUT	Serial Data Output	
66	I	S-IN	Serial Data Input	
67	O	S-CLK	Serial Clock Output	
68	O	PLL-DATA	PLL-DATA Output	
69	O	PLL-ENA	PLL-ENA Output	
70	O	PLL-CLK	PLL-CLK Output	
71	O	E2P-SCL	E2PROM Clock for Communication	
72	I/O	E2P-SDA	E2PROM Data for Communication	
73			Not Used	
74		GND		
75			Not Used	
76		GND		
77	O	C-CONT	Capstan Control Output	
78	O	D-CONT	Drum Control Output	
79			Not Used	
80	I	T-REEL	Take up Reel Pulse Input	
81	O	A-MUTE-PB-L	Audio Mute	
82	I	P-DOWN	Power Failure Detection	
83		GND		
84	I	C-SYNC	Composit-Sync	
85	I	C-FG	Capstan-FG Input	
86	I	D-PG	Drum-PG Input	
87	I	D-FG	Drum-FG Input	
88		GND	GND for AMP	
89	O	AMPV REF OUT	Standard Voltage Output	

Pin No.	In/ Out	Signal Name	Function	Active Level
90	I	AMP V REF IN	Standard Voltage Input	
91	I	CTL(-)	CTL (-)	
92	I	CTL (+)	CTL (+)	
93	O	CTL + SW OUT	CTL + SW Out	
94	I	CTL AMP IN	CTL Amp Input	
95		AMPC	AMPC	
96		GND	GND for CTL	
97	O	CTL AMP OUT	CTL Amp Output	
98		+5V	Power supply for AMP	
99		+5V	A/D, D/A Standard Voltage	
100		GND		

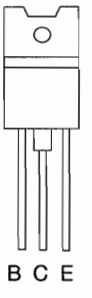
LEAD IDENTIFICATIONS

2SC4508



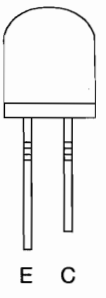
E: Emitter
C: Collector
B: Base

2SD1877



E: Emitter
C: Collector
B: Base

PT380FB
ST319R2-B



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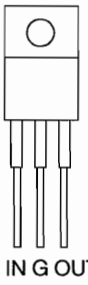

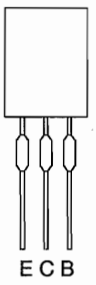

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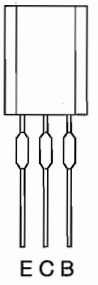

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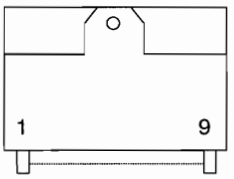

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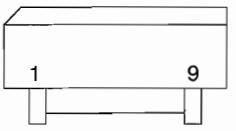

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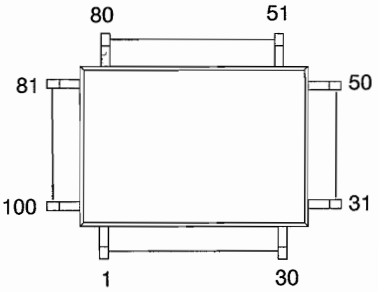

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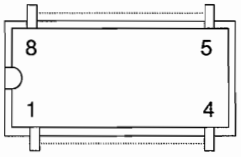

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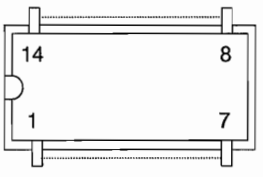

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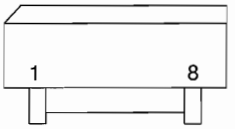

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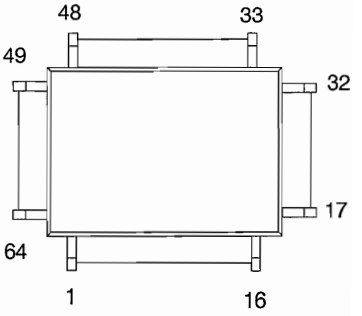

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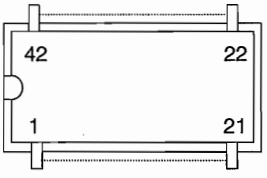

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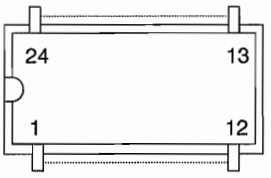

DECK MECHANISM SECTION

13" COLOR TV/VCR COMBINATION

SC3813
F3813C

Sec. 2: Deck Mechanism Section

- **Standard Maintenance**
- **Alignment for Mechanism**
- **Disassembly/Assembly of Mechanism**

TABLE OF CONTENTS

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Service Fixtures and Tools 2-2-1
Mechanical Alignment Procedures 2-3-1
Disassembly/Assembly Procedures of Deck Mechanism 2-4-1
Front Loading Assembly 2-4-8
Alignment Procedure of Mechanism 2-4-10

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ❍: Check ●: Change

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	❍	●	❍	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B21	Loading Belt		●		●
B27	Tension Lever Assembly		●		●
B31	AC Head Assembly			●	
B32, B339	Reel Base Assembly			●	
B37	Capstan Motor		●		●
B52	Capstan Belt		●		●
*B73	FE Head CBA			●	
B132	Clutch Assembly		●		●
B133	Idler Assembly		●		●
B410	Pinch Roller Assembly		●		●
B413	Main Brake T Assembly		●		●
B414	Main Brake S Assembly		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

   * B73 ------ VCR Model only

Cleaning

Cleaning of Video Head

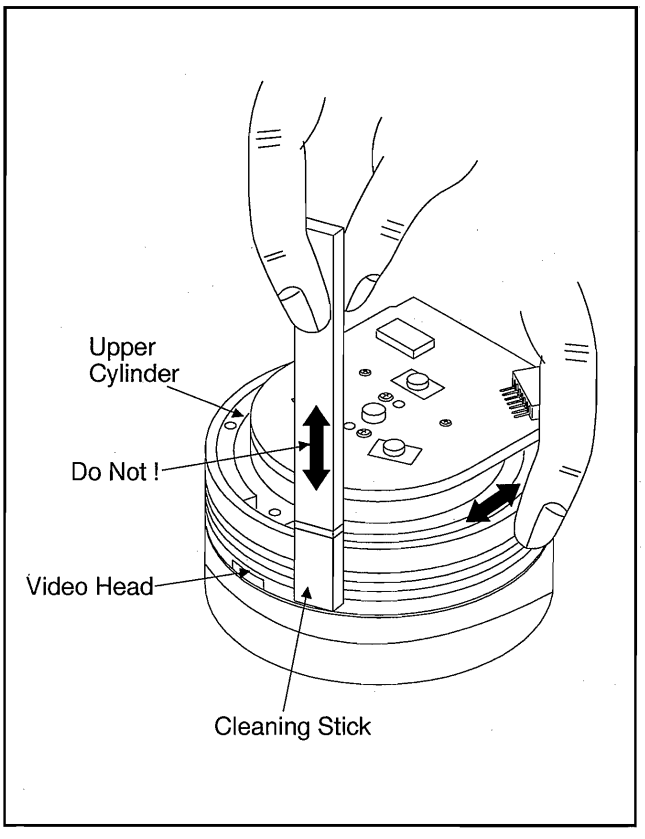
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the rear cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

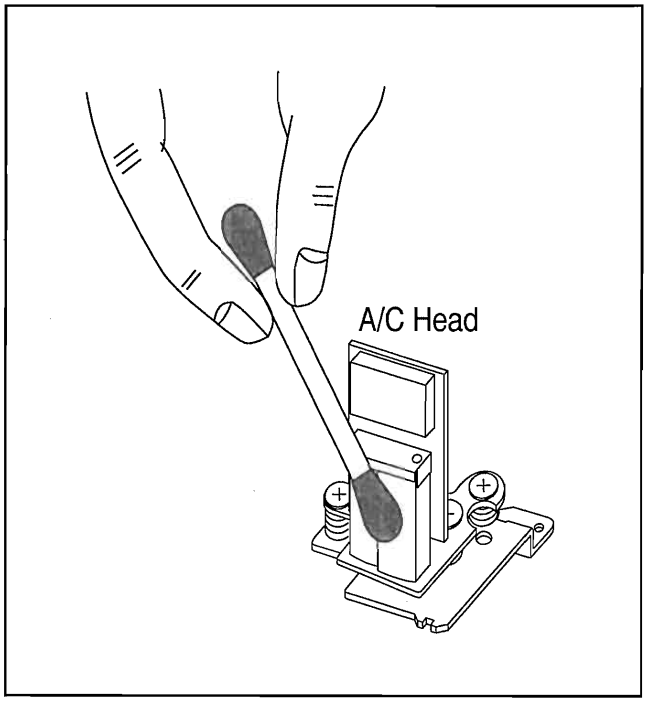
Clean the head with a cotton swab.

Procedure

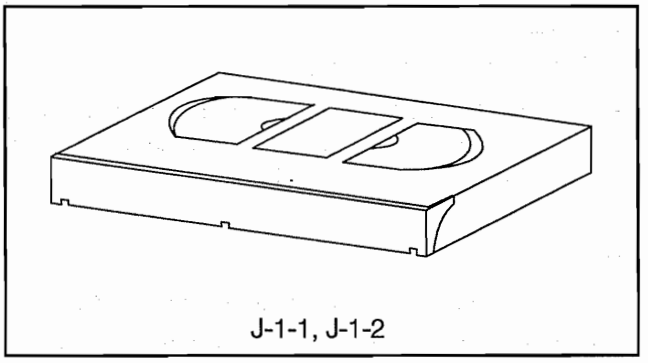
1. Remove the rear cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

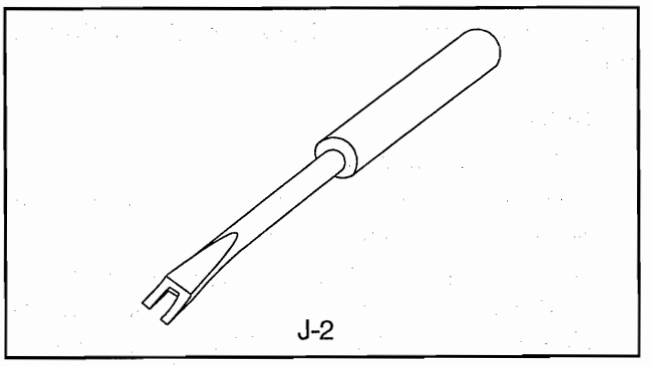
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS



J-1-1, J-1-2



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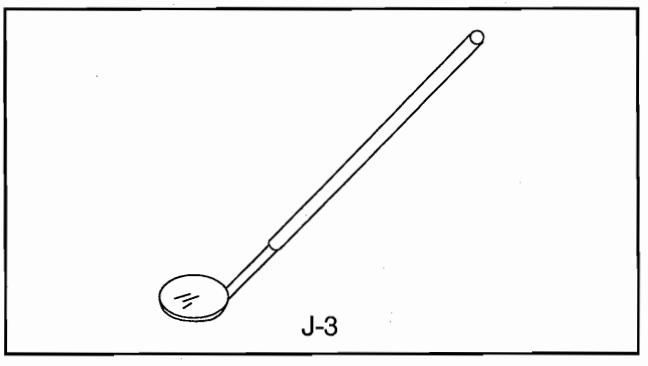
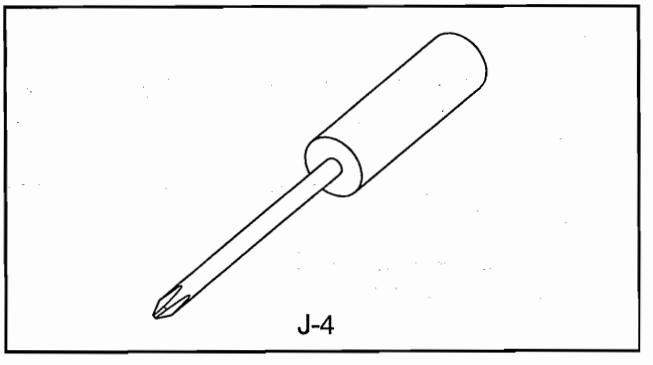


J-3



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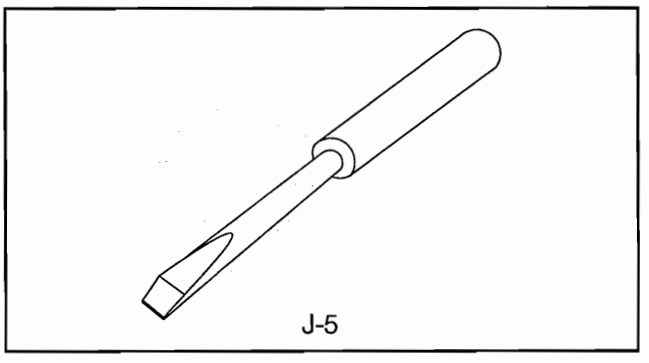
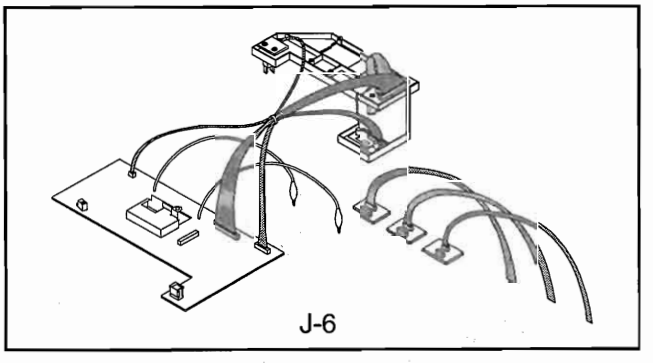


J-5



J-6

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	FSJ-0006	Guide Roller
J-3	Mirror	FSJ-0004	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value
J-6	U17 Deck Extension Cable	N1098XA	All Mechanical and Electrical Adjustments

Note:
Before starting any adjustment, take the Deck Assembly out of the cabinet and use J-6 to connect the Deck Assembly with the Main CBA.

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 until the cassette tape is fully loaded. By turning the Pulley Assembly, you are turning the cam indicated in this figure. However, movement of the cam will be very slow. Allow a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1 to unload the cassette tape. When turning the Pulley Assembly, please be aware that this is a long process and the cassette will not start getting unloaded instantaneously. Within this long process, before the cassette actually starts getting unloaded, there is a time period during which the moving guide assemblies slide back to their original positions shown in Fig. M1. However, the tape will be left wound around the cylinder. To put the tape back into the cassette, gently turn the Capstan Motor in the direction shown in Fig. M2. Make sure that the tape is completely placed back in the cassette before the cassette starts getting unloaded. Otherwise the tape hanging out will be caught and damaged by the lid of the cassette when it closes.
   By turning the Pulley Assembly, you are turning the cam indicated in Fig. M1. As stated, movement of the cam will be very slow. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Cover.
3. Turn the Pulley Assembly in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the Pulley Assembly until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

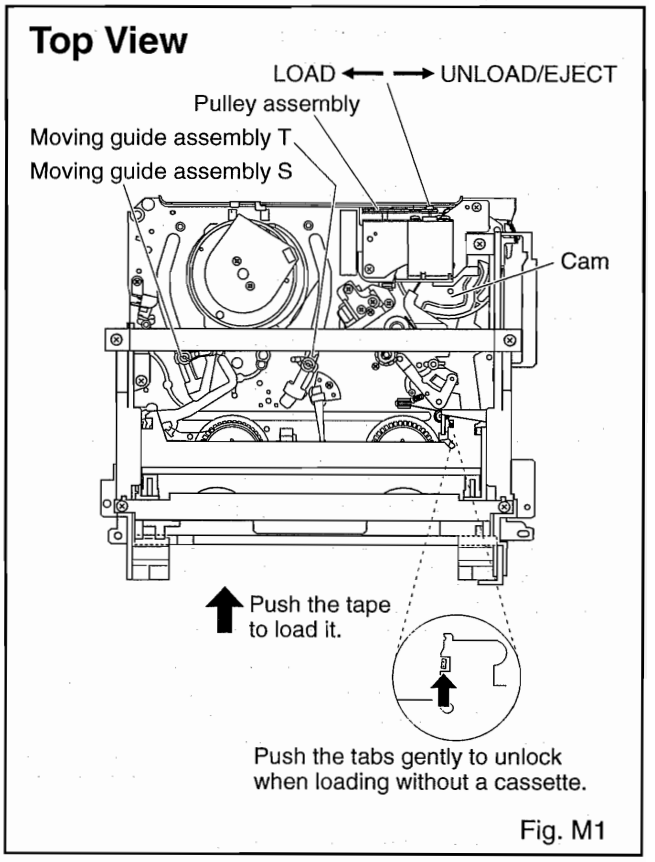


Fig. M1

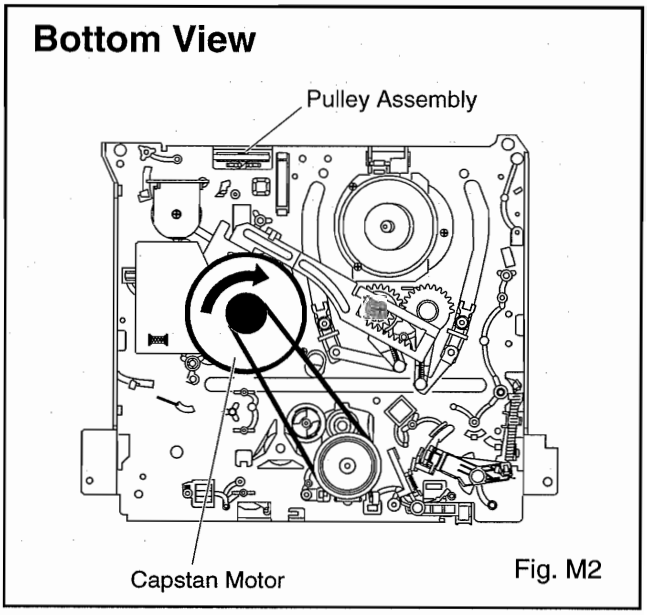


Fig. M2

1. Tape Interchangeability Alignment

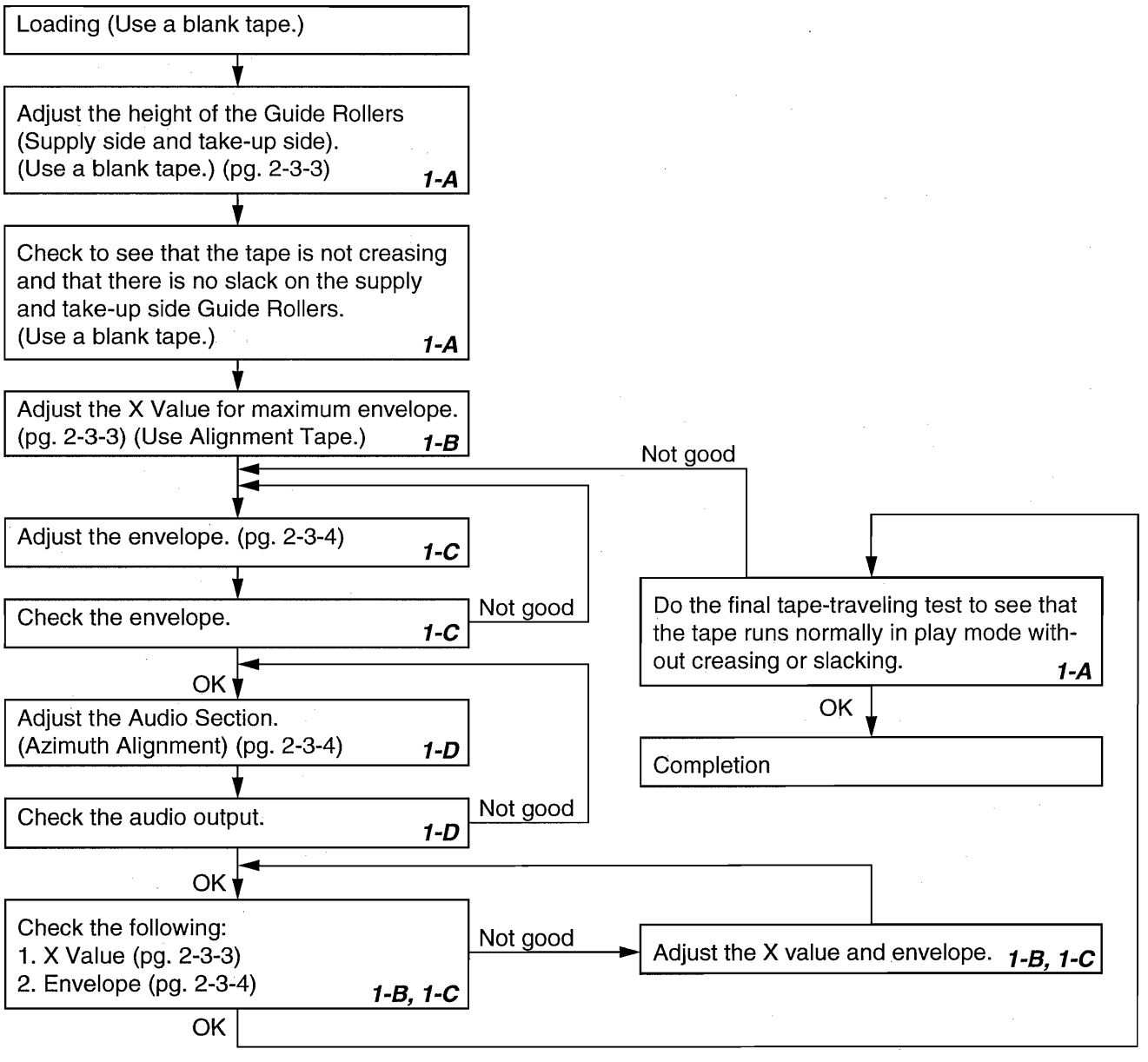
Note: To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8N)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling


Loading (Use a blank tape.)
Adjust the height of the Guide Rollers (Supply side and take-up side). (Use a blank tape.) (pg. 2-3-3) 1-A
Check to see that the tape is not creasing and that there is no slack on the supply and take-up side Guide Rollers. (Use a blank tape.) 1-A
Adjust the X Value for maximum envelope. (pg. 2-3-3) (Use Alignment Tape.) 1-B
Not good
Adjust the envelope. (pg. 2-3-4) 1-C
Check the envelope. 1-C
Not good
OK
Adjust the Audio Section. (Azimuth Alignment) (pg. 2-3-4) 1-D
Check the audio output. 1-D
Not good
OK
Check the following:
1. X Value (pg. 2-3-3)
2. Envelope (pg. 2-3-4) 1-B, 1-C
Not good
Adjust the X value and envelope. 1-B, 1-C
OK
Do the final tape-traveling test to see that the tape runs normally in play mode without creasing or slacking. 1-A
OK
Completion

1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Play back a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)
   Note: Beneath each Guide Roller, there is a small screw. (Refer to Fig. M5.) This screw works to apply adequate torque to the shaft of each Guide Roller so that the Guide Roller turns properly. Even when adjusting the height of the Guide Roller(s), do not touch these two small screws.
3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and ACE Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the ACE Head. (Fig. M6)

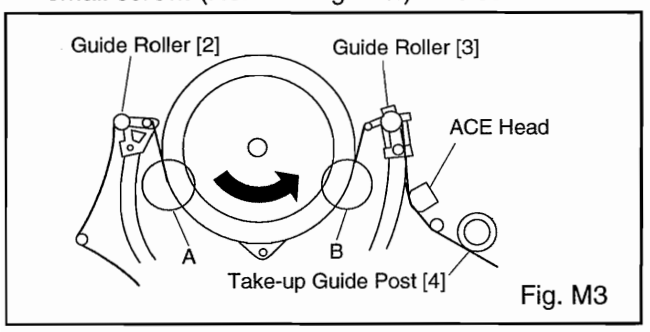


Fig. M3

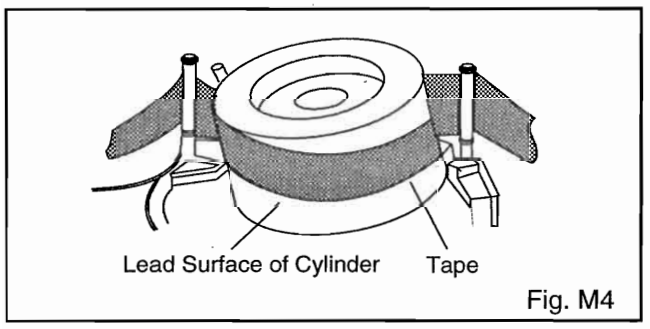


Fig. M4

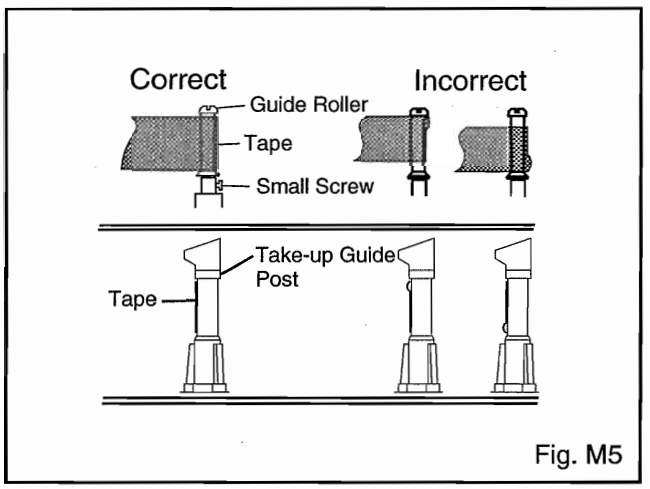


Fig. M5

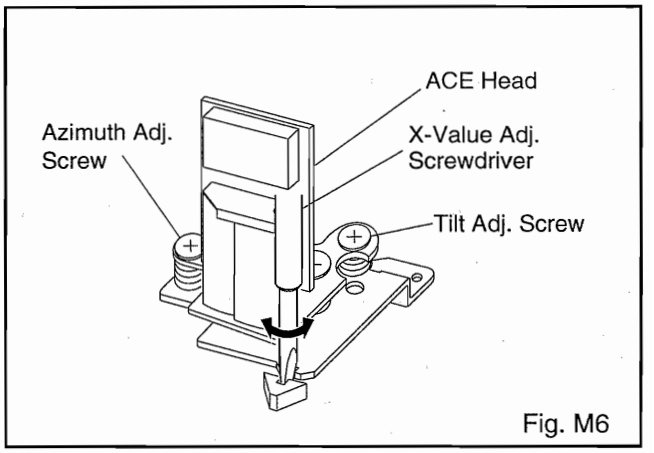


Fig. M6

1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to J101 (V-ENV) and J116 (CTL) on the Main CBA. Use J119 (RF-SW) as a trigger.
2. Play back the Gray Scale of the Alignment Tape (FL8N) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing the CH UP button then the PLAY button on the VCR. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at J101 (V-ENV) is maximum. (Fig. M6)
5. Press CH UP button on VCR until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press CH DOWN button on VCR until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing the CH UP button and then the PLAY button on the VCR.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to J101 (V-ENV) on the Main CBA. Use J119 (RF-SW) as a trigger.
2. Play back the Gray Scale on the Alignment Tape (FL8N). Set the Tracking Control Circuit to the center position by pressing the CH UP and then the PLAY button on the VCR. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig.M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes UP to achieve 1/2 level of envelope should match the number of pushes DOWN from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the alignment tape (FL8N) and confirm that the audio signal output level is 8 kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Dropping envelope level at the beginning of track.

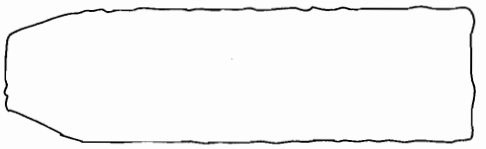


Fig. M7

Dropping envelope level at the end of track.

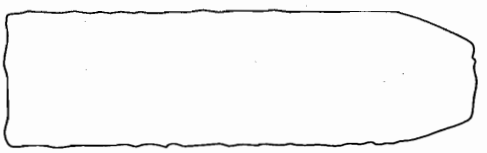


Fig. M8

Envelope is adjusted properly. (No envelope drop)

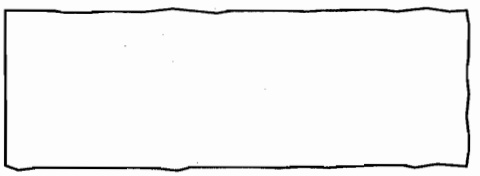


Fig. M9

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Main Mechanism

Before following the procedures described below, be sure to:

1. Remove the deck assembly from the cabinet.
   (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-6-1.)
2. Remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.)
3. First remove Step/Loc. No. [39], and start to remove other parts. (See Fig. DM1.)
4. Before Step/Loc. No. [2] and [9] first remove ACH Connector A, ACH Connector B, VH Connector A, and VH Connector B. (See Fig. DM2.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [37] and [38] in Fig. DM3 on page 2-4-4. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Cylinder Shield	T	DM1	2(S-2)	
[2]	[2]	Loading Motor Assembly	T	DM2 DM3 DM5 DM6	2(S-3), Loading Belt ACH Connectors A and B, FFC Cable	
[3]	[2]	Motor Holder	T	DM1 DM3 DM5	2(S-4)	
[4]	[2]	Cassette Drive Lever Sub Assembly	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[5]	[2]	Pinch Roller Assembly	T	DM3 DM5	(C-1)	Refer to Alignment Sec. Pg. 2-4-10
[6]	[6]	Mode SW CBA	B	DM4 DM5	(S-5), Desolder	
[7]	[2]	Cam	T	DM3 DM5		(+) Refer to Alignment Sec. Pg. 2-4-10
[8]	[2]	Pulley Assembly	T	DM3 DM6	2(W-1), Loading Belt	(+)
[9]	[9]	Cylinder Assembly	T B	DM2 DM3 DM7	3(S-6), *VH Connectors A and B, FFC Cable	
[10]	[10]	FE Head	T	DM3 DM7	(S-7)	
[11]	[11]	ACE Head Assembly	T	DM2 DM3 DM8	2(S-8), FFC Cable	
[12]	[12]	Tape Guide Assembly	T	DM3 DM8	*(P-0), *(L-1)	
[13]	[12]	Capstan Motor	B T	DM4 DM5 DM9 DM16	4(S-9), Capstan Belt, Radiator Plate, Desolder	
[14]	[14]	Tension Lever Assembly	T	DM3 DM10	*(L-2), *(L-3), *(P-1), *(P-2)	
[15]	[15]	M Brake S Assembly	T	DM3 DM10	*(L-4)	
[16]	[16]	Rec Arm	B	DM4 DM11	*(L-5)	
[17]	[17]	BT Arm	B	DM4 DM10 DM11	*(L-6), *(P-2)	
[18]	[17]	Holder Kick Arm	B	DM4 DM11	*(P-3)	
[19]	[17]	Tension Plate	B	DM4 DM11		

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[20]	[17]	Motor Lever	T	DM3 DM12	*4(L-7), *(L-8), *Locking Tab	
[21]	[17]	Idler Assembly	T	DM3 DM13	*(L-9)	
[22]	[14]	S Brake Lever Assembly	T	DM3 DM14	*(P-4),*(L-10)	
[23]	[17]	M Brake T Assembly	T	DM3 DM13	*(P-5),*(L-11)	
[24]	[14]	Reel S	T	DM3 DM14	Poly Slider Washer	(+) Base has slots.
[25]	[17]	Reel Base Assembly T	T	DM3 DM14	Poly Slider Washer	(+)
[26]	[26]	M Gear	T	DM3 DM14	(W-2)	
[27]	[2]	Main Lever Assembly	T	DM3 DM15		
[28]	[2]	M Lever Holder	T	DM3 DM15	*2(L-12)	
[29]	[29]	Clutch Assembly	B	DM4 DM16	(C-2),Capstan Belt, Poly Slider Washer	(+)
[30]	[29]	FF Arm	B	DM4 DM16	*2(L-13)	
[31]	[31]	Sensor Gear	B	DM4 DM17	(C-3)	
[32]	[32]	Spring	T	DM3 DM8		
[33]	[33]	Prism	T	DM3 DM13	(S-10)	
[34]	[12]	Loading Lever Assembly	B	DM4 DM18	(S-11)	(+) Refer to Alignment Sec. Pg. 2-4-10
[35]	[34]	Loading Arm T Assembly	B	DM4 DM18		(+) Refer to Alignment Sec. Pg. 2-4-10
[36]	[34]	Loading Arm S Assembly	B	DM4 DM18	(S-15)	(+) Refer to Alignment Sec. Pg. 2-4-10
[37]	[2]	Moving Guide S Preparation	T	DM3 DM19		
[38]	[2]	Moving Guide T Preparation	T	DM3 DM19		
[39]	[39]	Deck Earth Plate	T	DM1 DM3	(S-12)	
[40]	[40]	Cleaning Head	T	DM3 DM7	*(L-14)	
[41]	[41]	Insulation Cover	T	DM3 DM13	*2(L-15)	
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

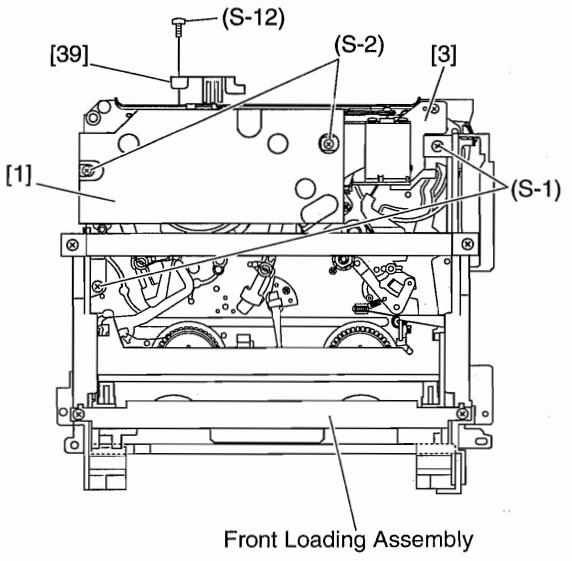
③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.



Note: Remove the Front Loading Assembly before removing [3] Motor Holder.

To remove Front Loading Assembly:
1. Remove 2 Screws; 2(S-1).
2. Lift Assembly up carefully.

Fig. DM1

Top View

Bottom View

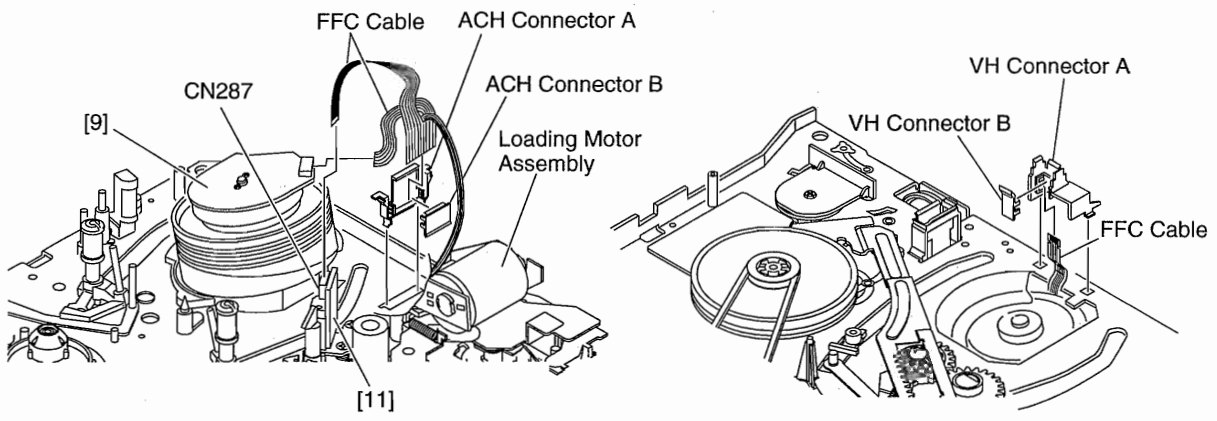


Fig. DM2

Top View

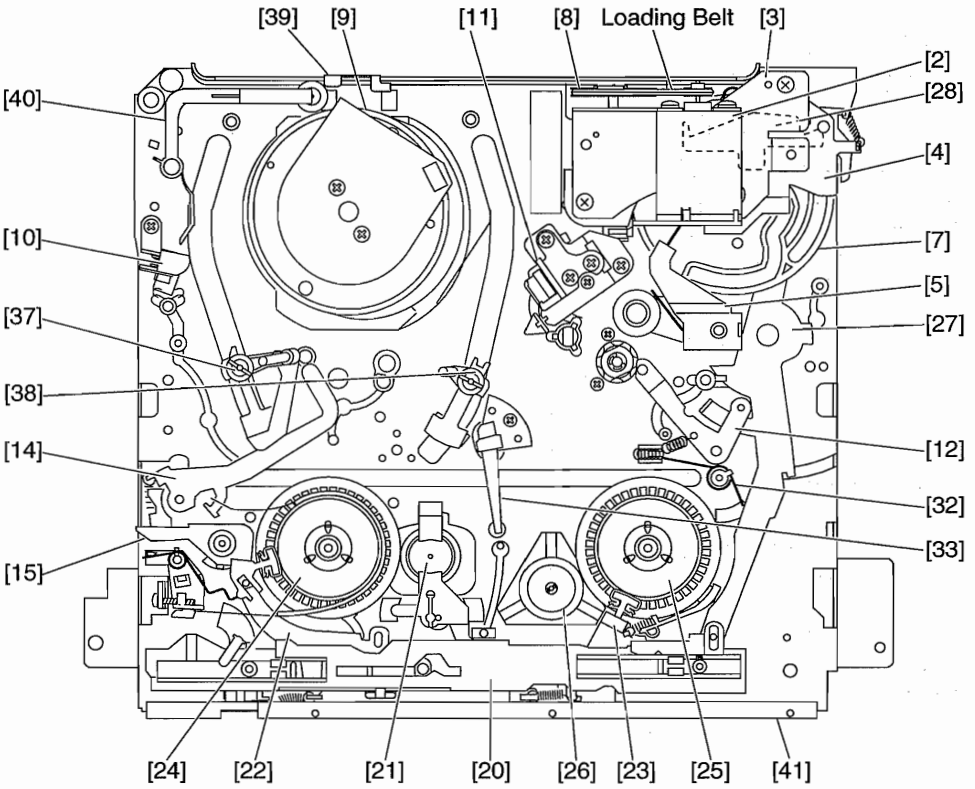


Fig. DM3

Bottom View

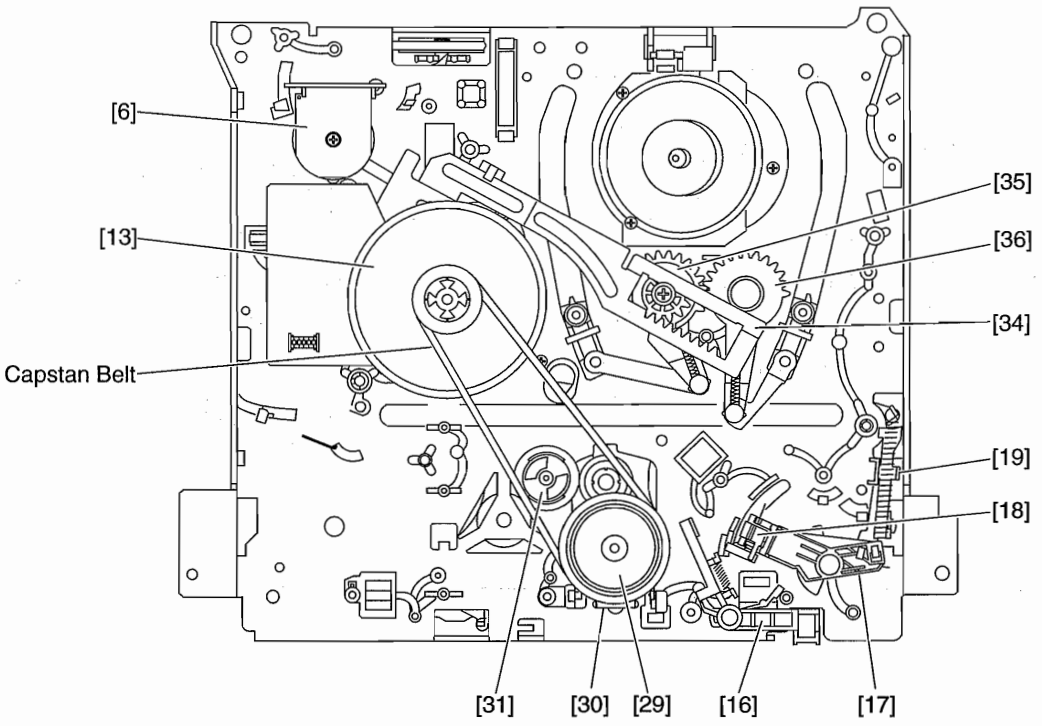


Fig. DM4

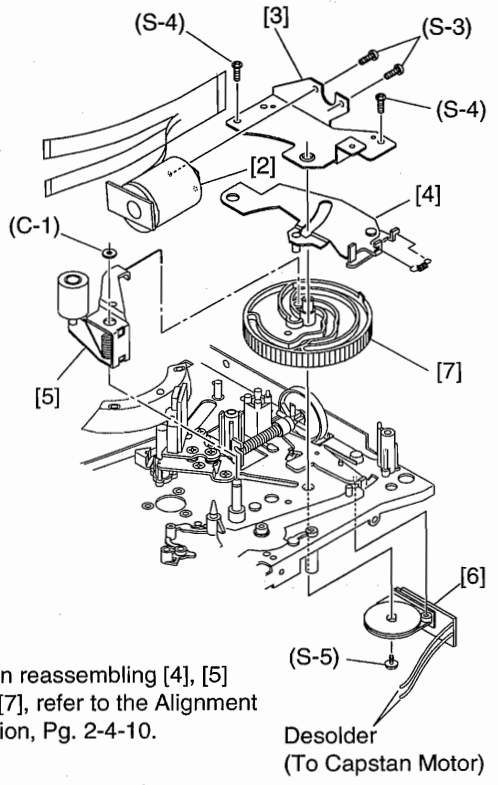


Fig. DM5

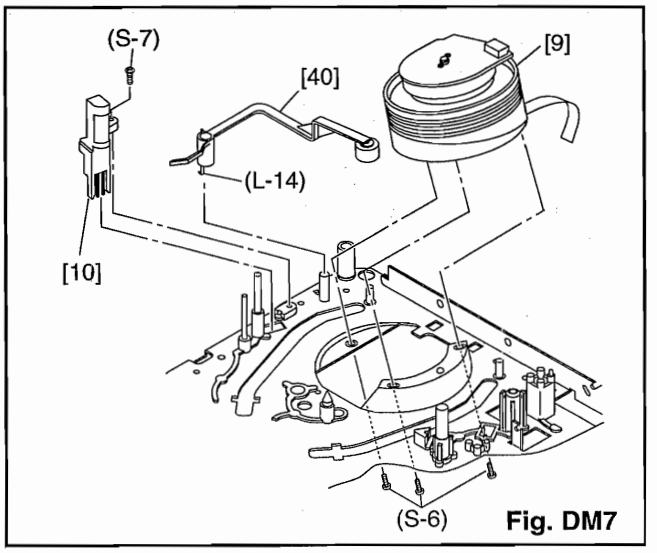


Fig. DM7

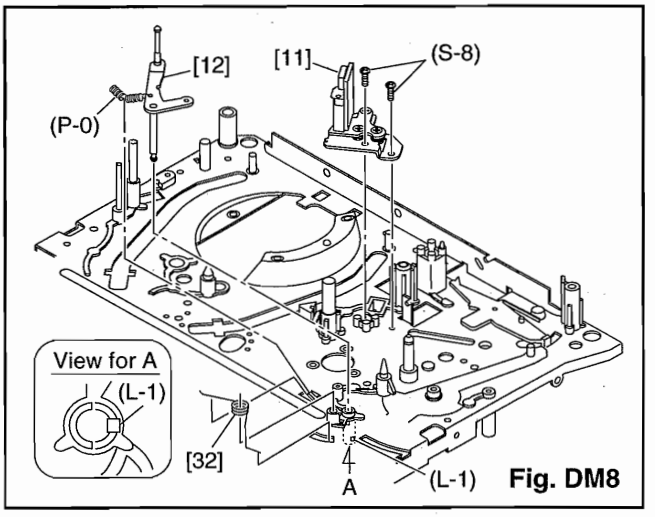


Fig. DM8

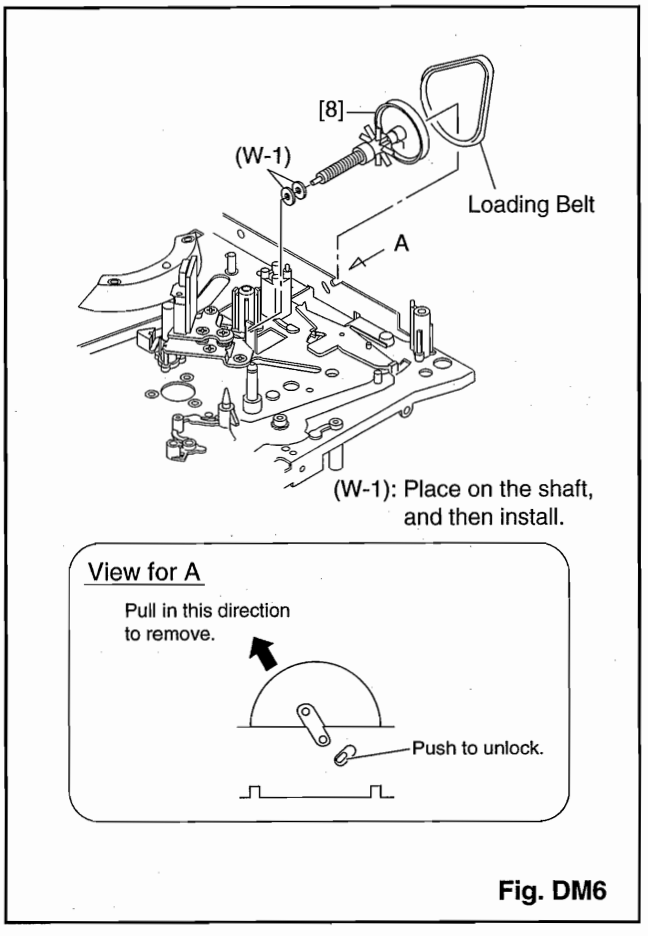


Fig. DM6

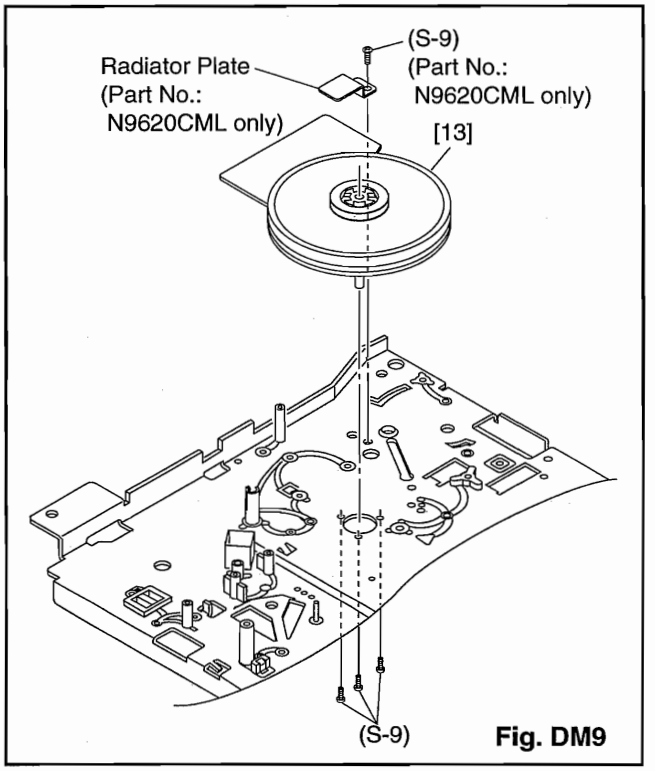


Fig. DM9

When reassembling, refer to the Alignment Section, Pg. 2-4-12.

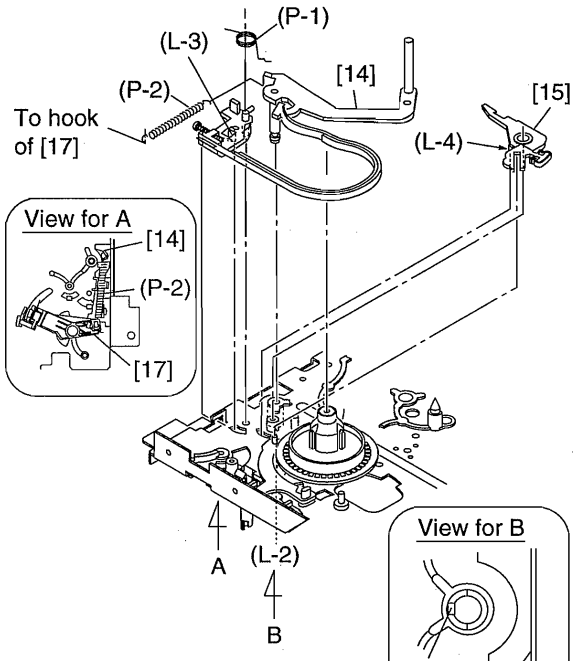


Fig. DM10

View for A

Reassembly [17], [18] and (P-3).

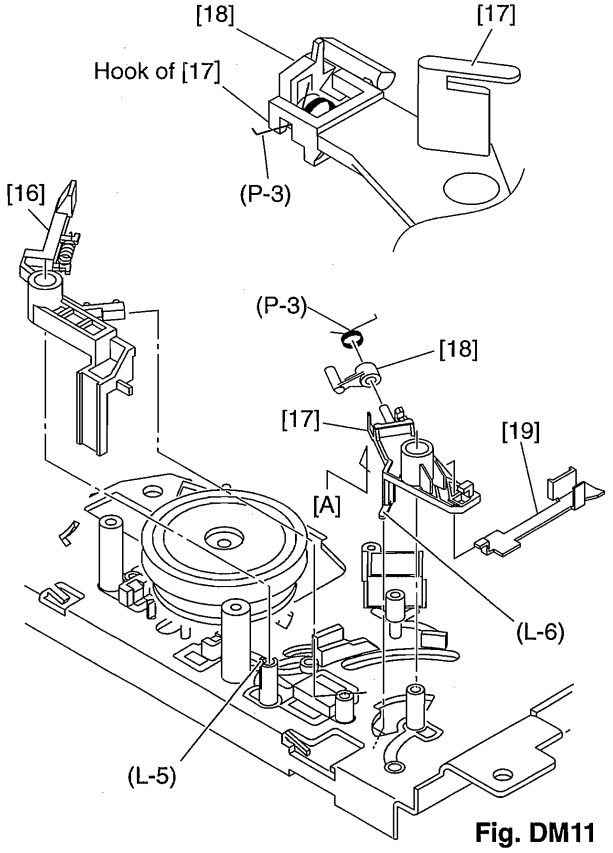


Fig. DM11

Turn [8] counterclockwise to move [20] to the right.
Align the indent of [20] with Locking Tab.

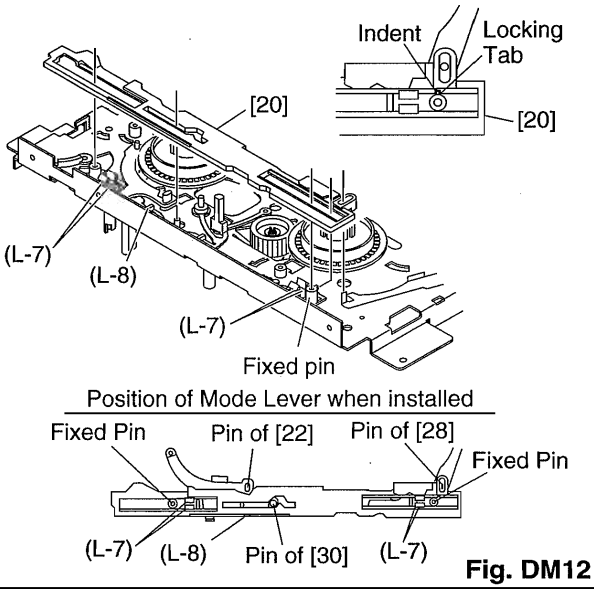


Fig. DM12

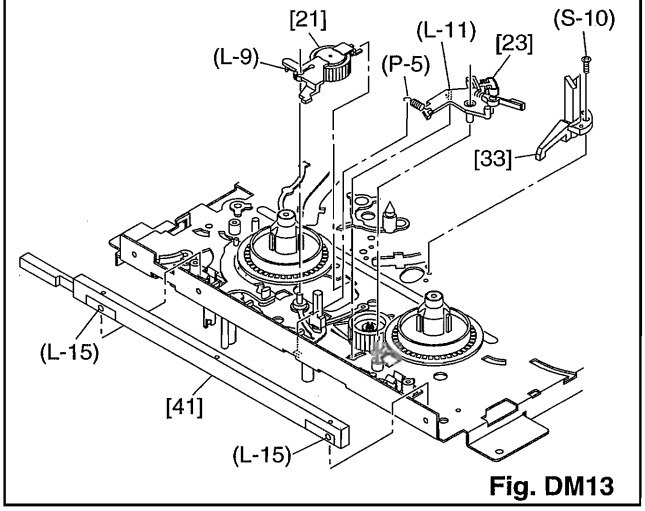


Fig. DM13

If the alignment height is not correct, it is acceptable to use one more Poly Slider Washer to raise the height. (Poly Slider Washer is 0.1 mm /0.004 inch in thickness.)

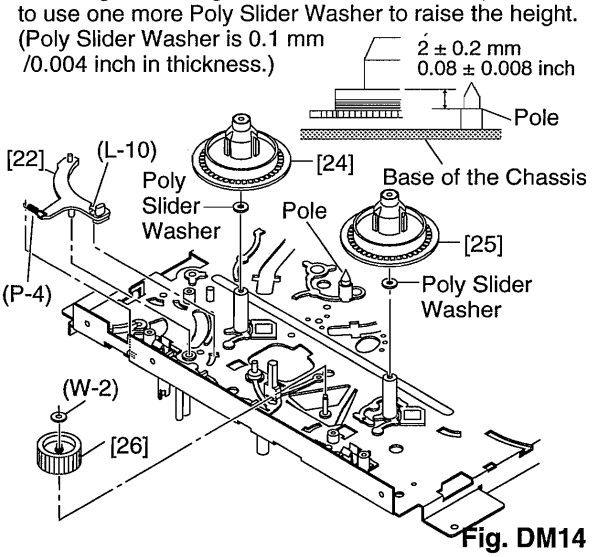


Fig. DM14

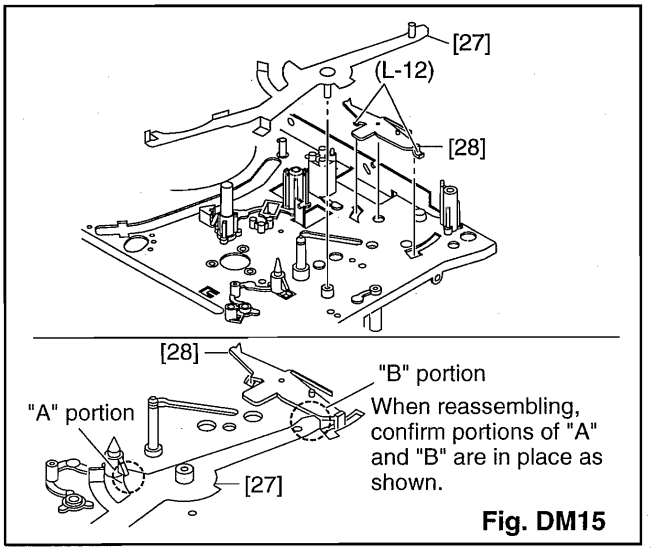


Fig. DM15

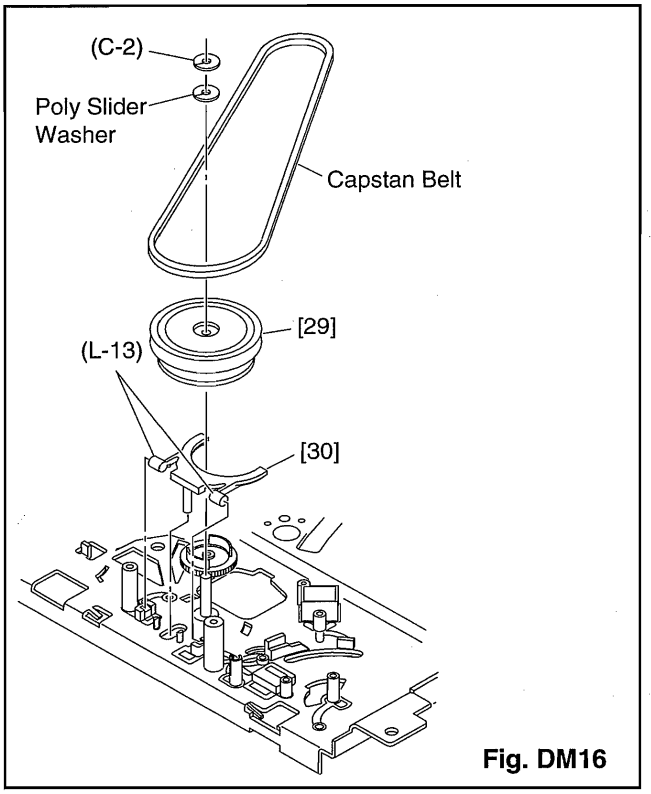


Fig. DM16

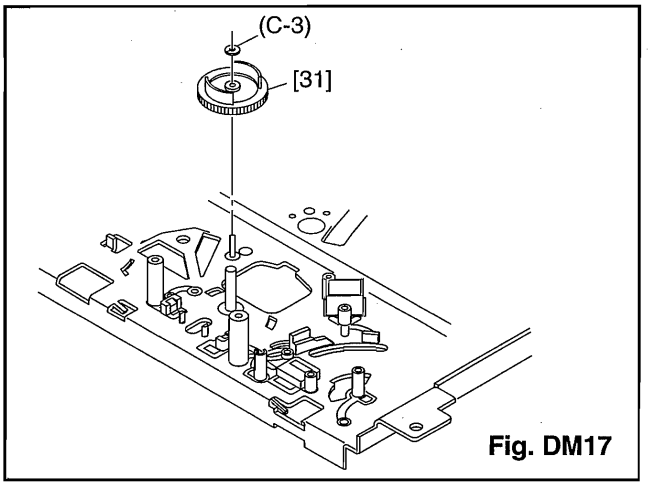


Fig. DM17

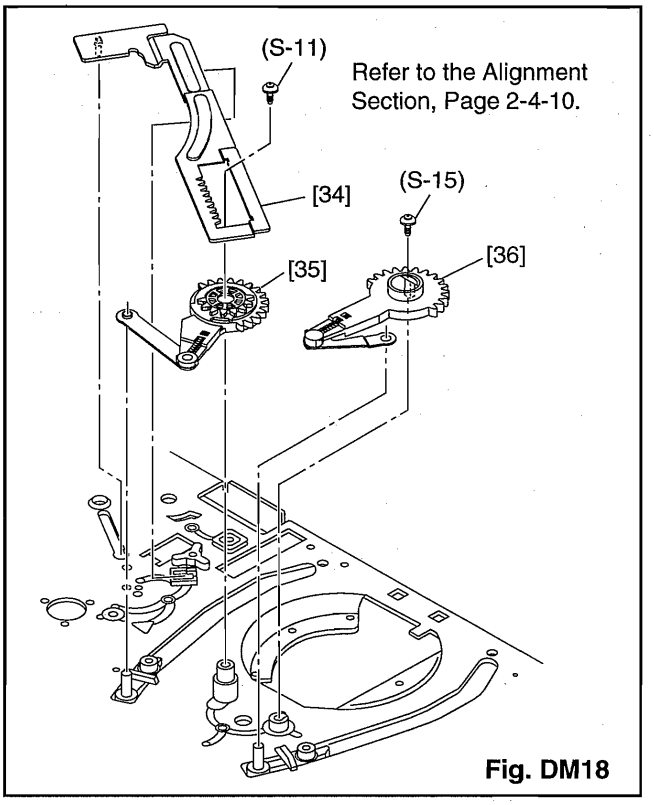


Fig. DM18

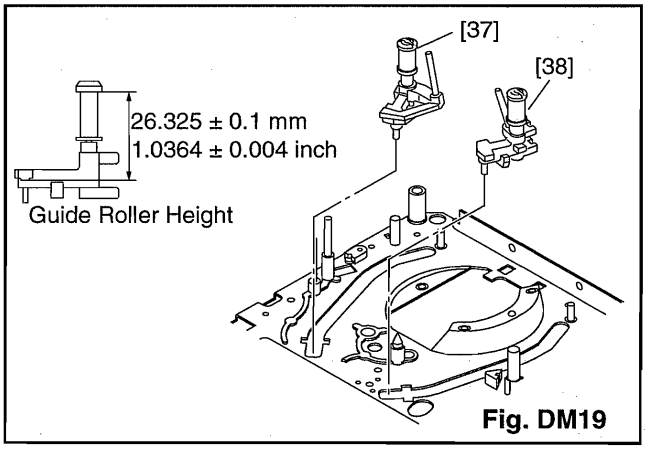


Fig. DM19

Front Loading Assembly

Before following the procedures described below, be sure to remove Front Loading Assembly from the main mechanism of the deck assembly. (See Fig. DM1.) When reassembling, start with the unit in Cassette-in mode and follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder B	T	DM22	2(S-1)	
[2]	[1]	Guide Holder F	T	DM22	2(S-2)	
*[3]	[3]	Slider Gear	R	DM22 DM23	2(L-1)	Eject Position
*[4]	[3]	Slider Gear	L	DM22 DM23	2(L-2)	Eject Position
		Slider Shaft	T	DM22 DM23		Eject Position
[5]	[1]	Cassette Holder Assembly	T	DM20 DM21 DM22	(S-3)	
[6]	[1]	Cassette Guide R	R	DM20 DM21 DM22		
[7]	[1]	Cassette Guide L	L	DM22		
[8]	[8]	Front Door Opener	R	DM22 DM23	(L-3)	Eject Position
[9]	[9]	Rack	R	DM20 DM21 DM22	(L-4)	Cassette in Position
[10]	[9]	Cassette Drive Gear	R	DM20 DM21 DM22	(L-5),Cassette Drive Gear Spring	Cassette in Position
↓ ①	↓ ②	↓ ③	↓ ④	↓ ⑤	↓ ⑥	↓ ⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.

*[3], *[4]: Slider Gear in Step [3] and that in Step [4] are identical. However, they are divided into two steps because, before reassembling Slider Shaft, one Slider Gear must be preinstalled at either end of Slider Shaft.

Before removing Parts [6], [9], or [10], shift [5] to Cassette-in position.

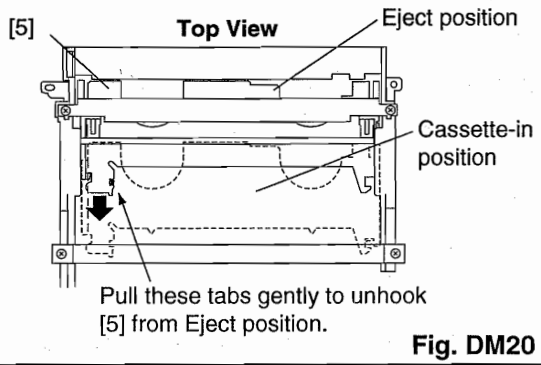


Fig. DM20

Install/remove in Cassette-in position to ensure that [5] is in locked position.

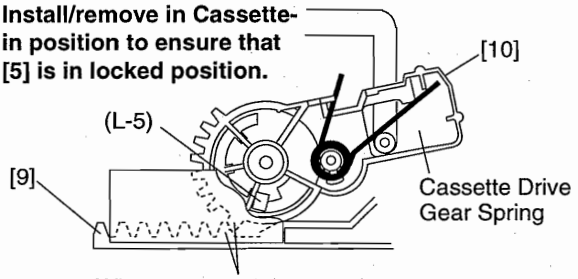
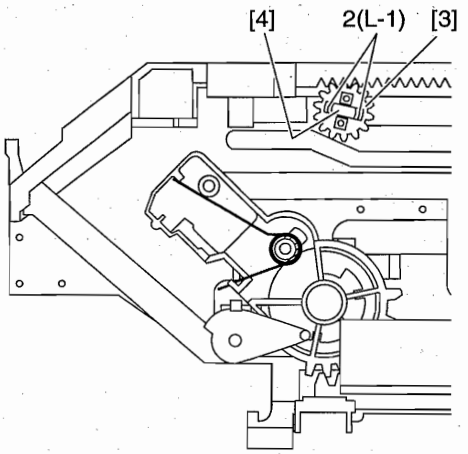


Fig. DM21

View before disassembling [3] and [4] (Installation of Slider Shaft and Slider Gear)



Install [3] and [4] in Eject position.
(When disassembling, [3] and [4] can be removed either in Eject position or Cassette-in position.)

- This figure shows where [3], [4] and other parts are in Eject position.

Fig. DM23

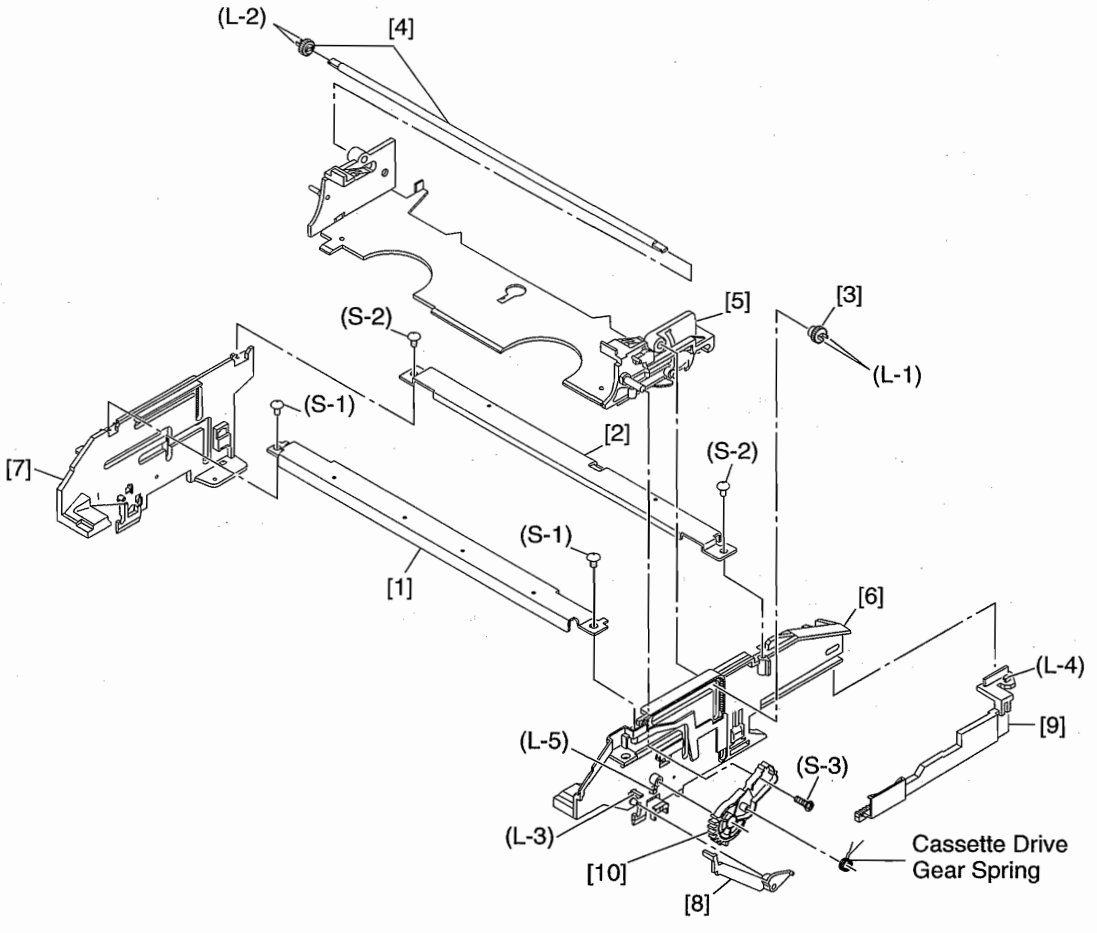


Fig. DM22

ALIGNMENT PROCEDURES OF MECHANISM

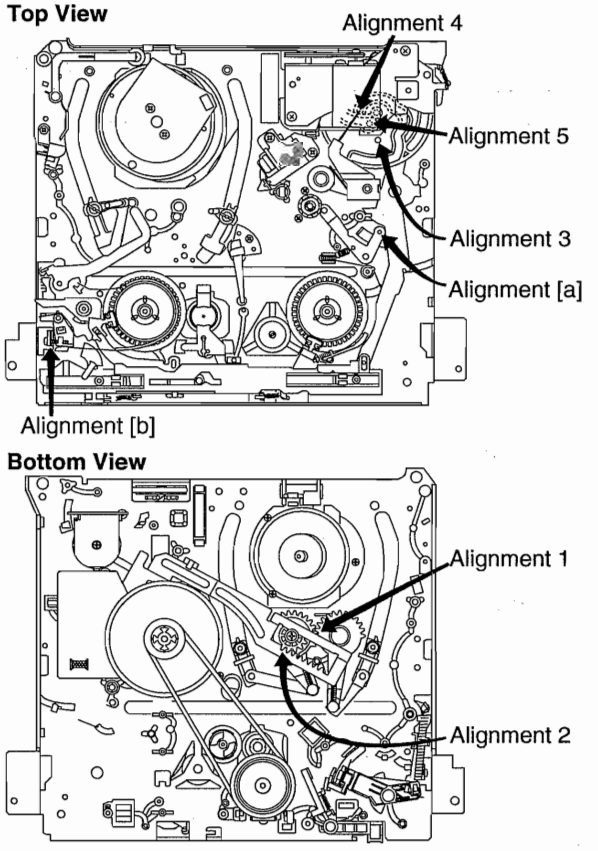
The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position



Alignment [a] and [b] can be done independently of any other alignment

Fig. AL1

Alignment 1

Loading Arm, S and T Assembly

1. Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Loading Lever Assembly

1. Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Loading Lever Assembly. See Fig. AL2.

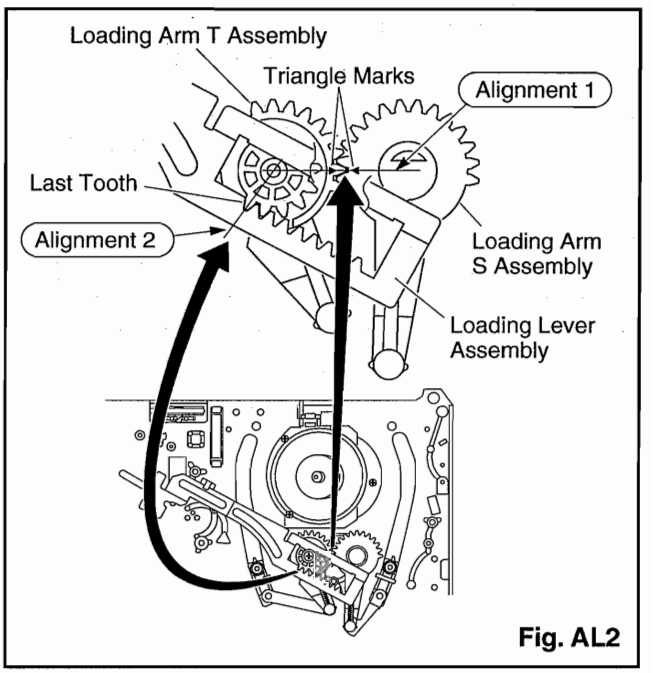


Fig. AL2

Alignment [a]

Tape Guide Assembly

1. Measurement of the black screw must be as specified in Fig. AL3.

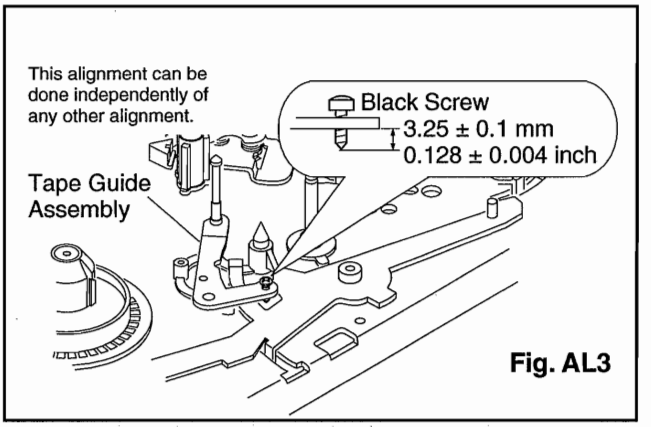

This alignment can be done independently of any other alignment.
Black Screw
3.25 ± 0.1 mm
0.128 ± 0.004 inch
Tape Guide Assembly

Fig. AL3

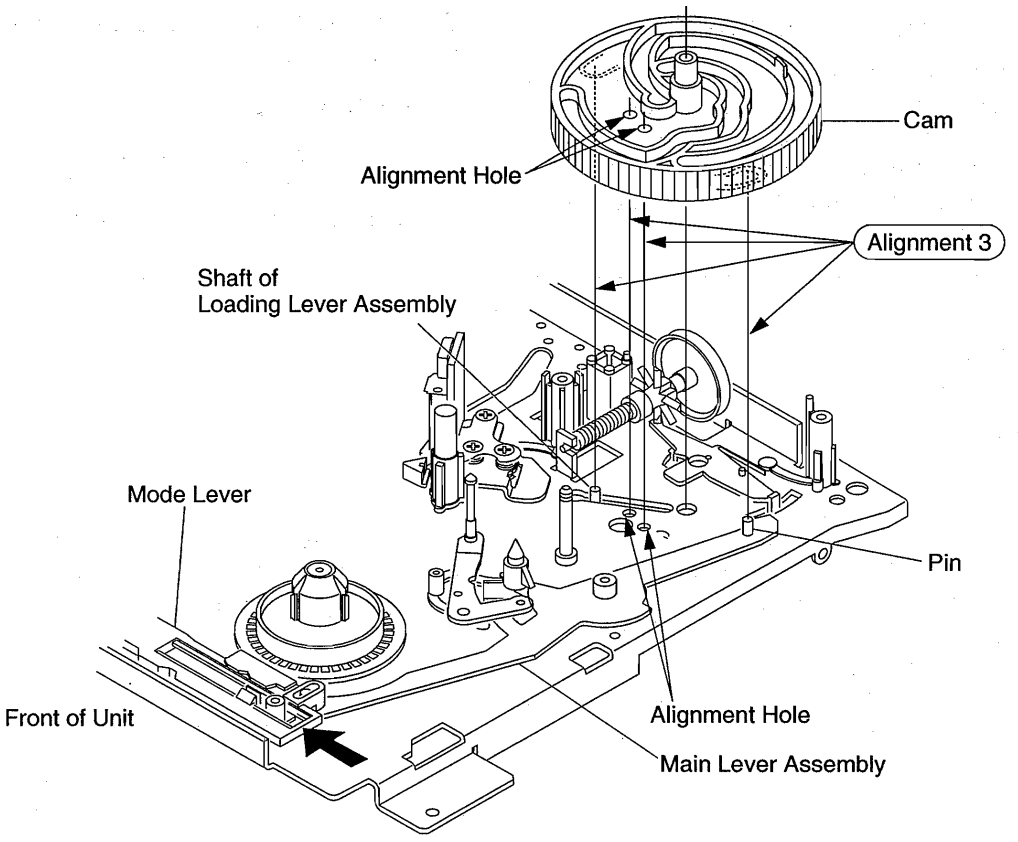


Fig. AL4

Alignment 3

Cam

1. Make sure that the mechanism is in Eject mode so that the shaft of Loading Lever Assembly is in the position shown in Fig. AL4.
2. Align the alignment hole of the Cam with the alignment hole of the base, holding the Cam just above the base.
3. Carefully keeping these two holes aligned, push Mode Lever in the direction of the arrow to install the Cam. The Mode Lever must be pushed to make the pin on the Main Lever Assembly fit in the proper groove in the lower Cam.
4. After installing the Cam, make sure that the alignment hole of the Cam is still aligned with the base hole and that the pin on the Main Lever Assembly and the shaft of the Loading Lever Assembly are inserted into the proper grooves of the lower Cam as specified in Fig. AL4.

Alignment 4

Pinch Roller Assembly

1. Ensure that the Spring of the Pinch Roller Arm Assembly is positioned in the end of the groove of the upper Cam as shown in Fig. AL5.

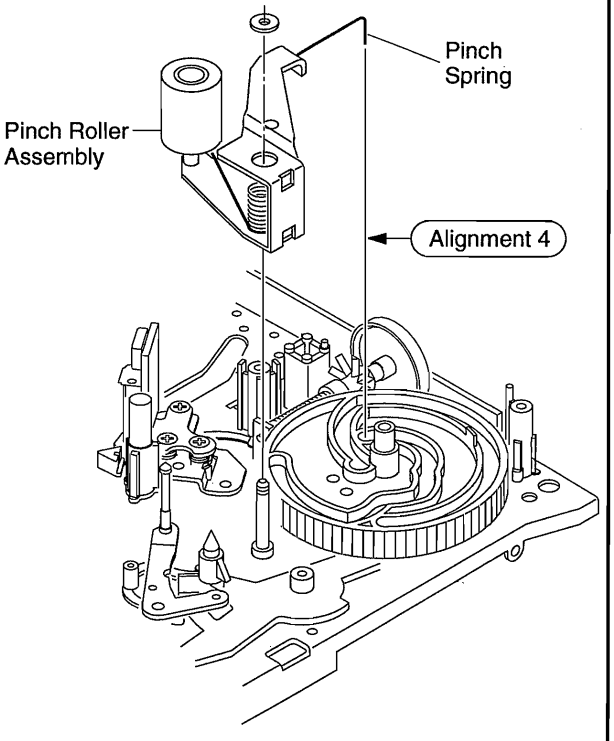


Fig. AL5

Alignment 5

Cassette Drive Lever Sub Assembly

1. Ensure that the pin of the Cassette Drive Lever Sub Assembly is positioned in the groove of the upper Cam and that the hole is positioned as shown in Fig. AL6. Then, make sure that the tab of the Cassette Drive Lever Sub Assembly is in front of the tab of the Cam.

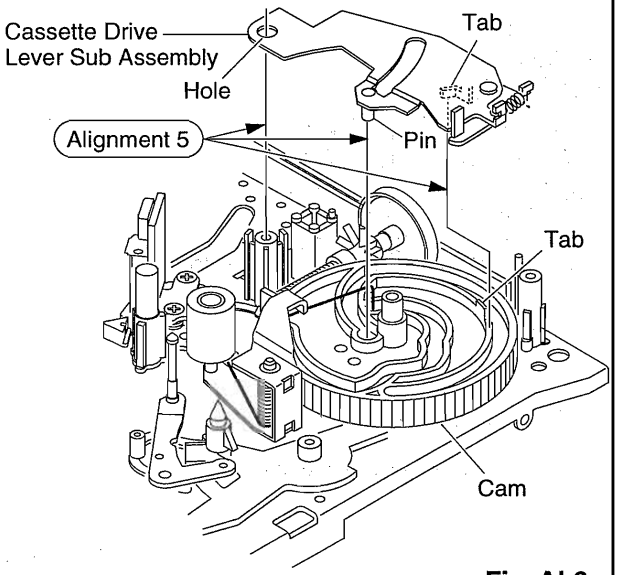


Fig. AL6

Alignment [b]

This alignment can be performed independently of any other alignment.

Band Brake Assembly

1. Ensure that Band Brake Assembly is positioned parallel to the chassis' notch as shown in Fig. AL7. This measurement can be made by eye.

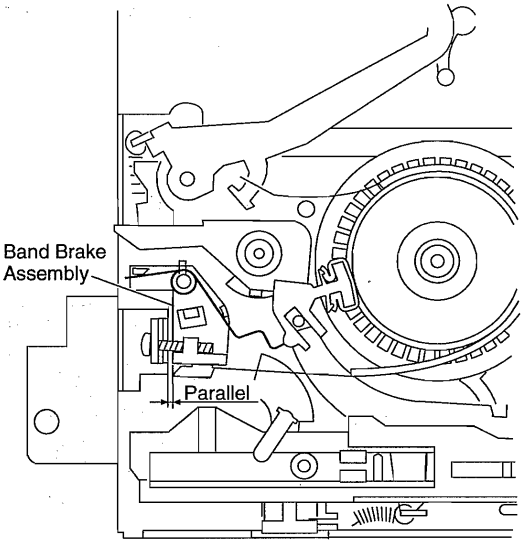


Fig. AL7

EXPLODED VIEWS AND PARTS LIST SECTION

13" COLOR TV/VCR COMBINATION

SC3813
F3813C

Sec. 3: Exploded views and Parts List Section

- **Exploded views**
- **Parts List**

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Electrical Parts List 3-3-1
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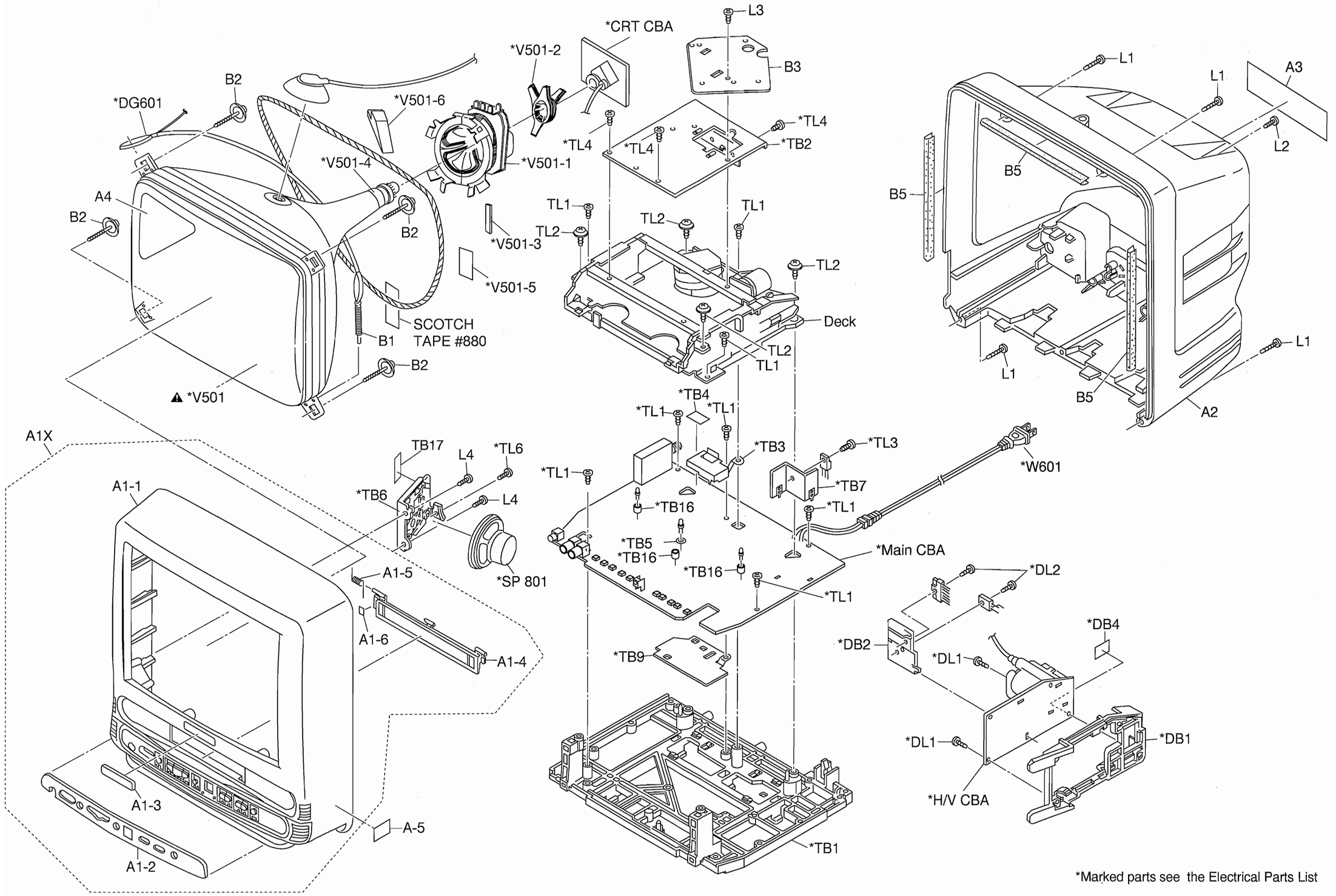
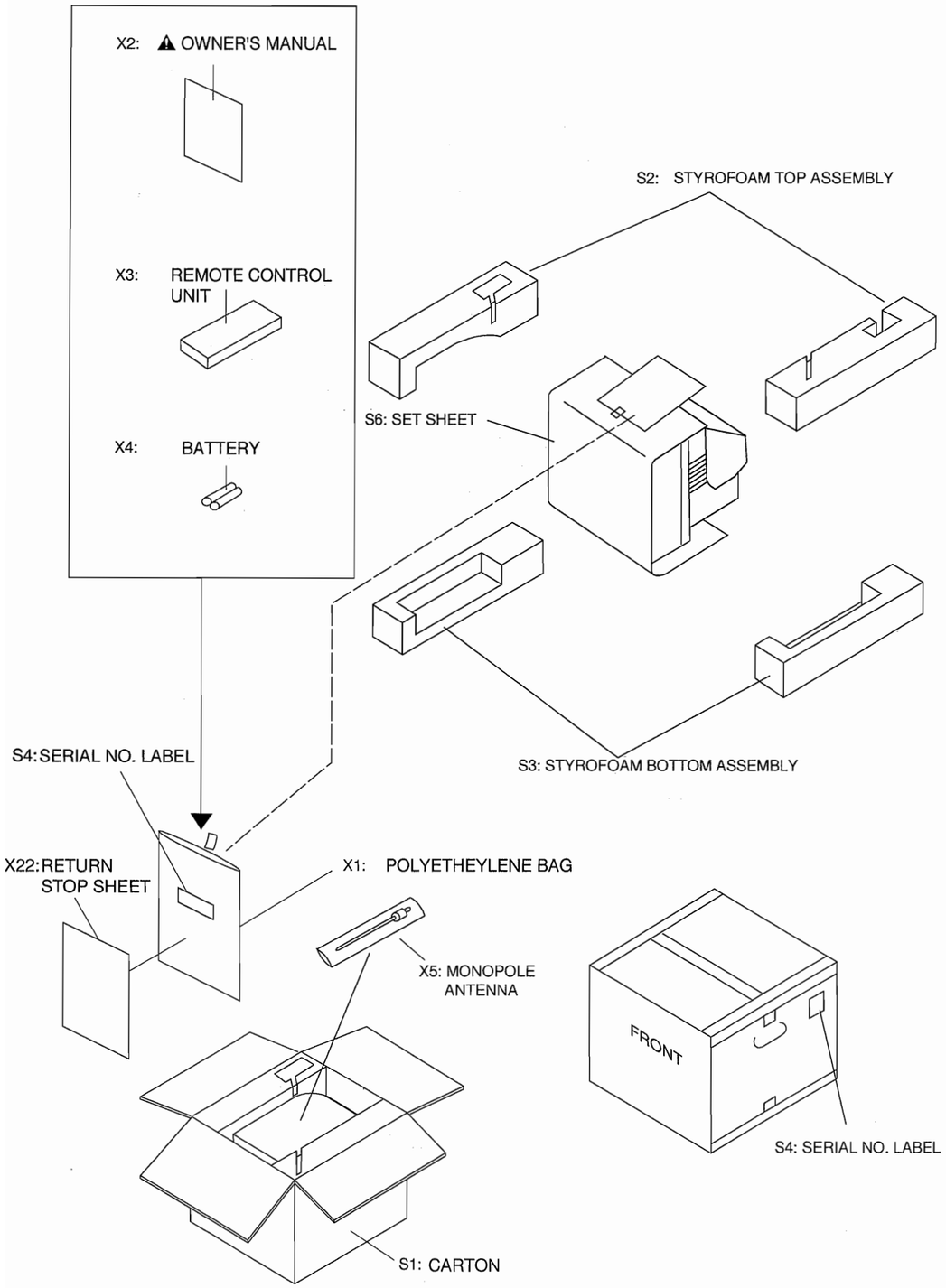
CABINET EXPLODED VIEW



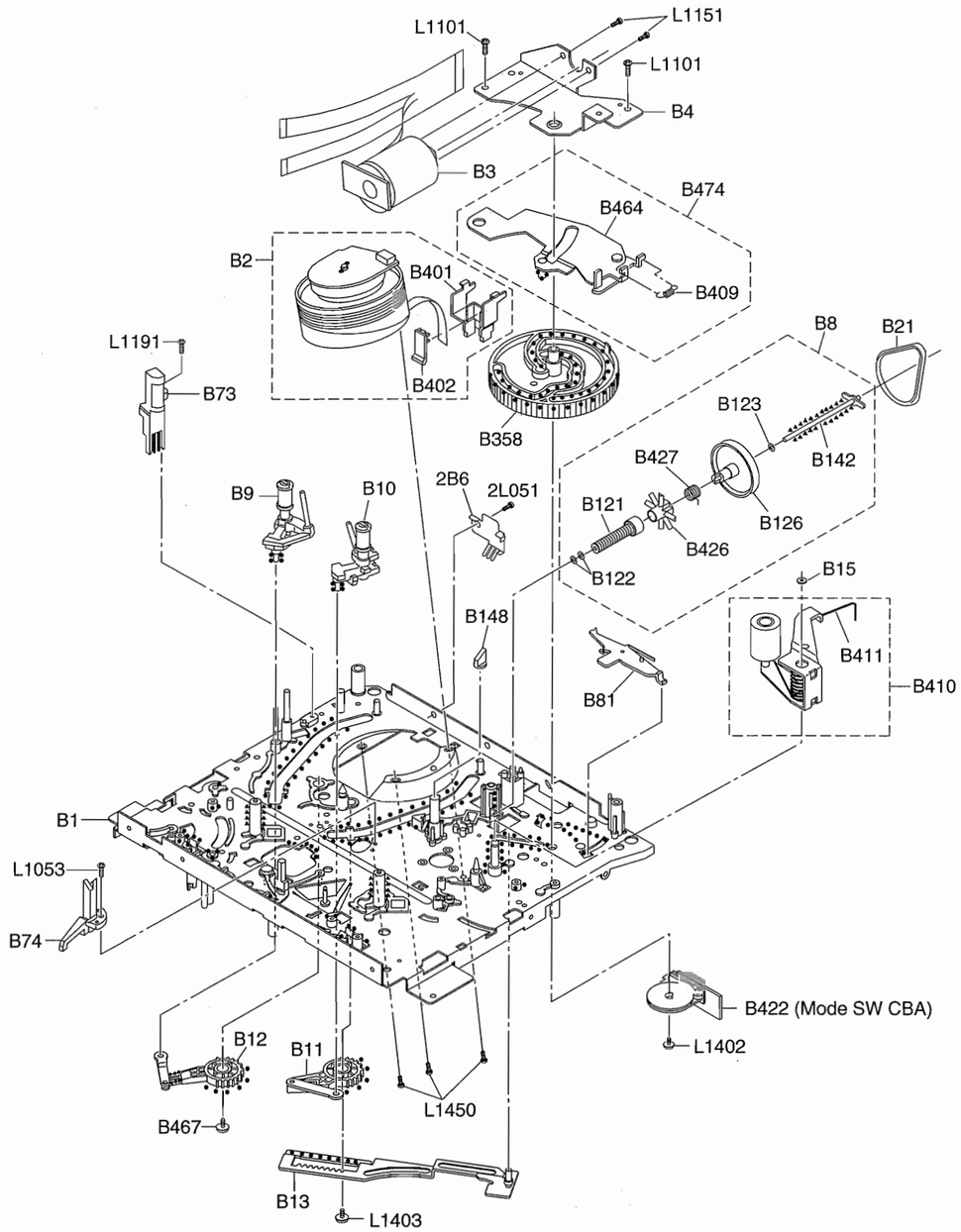
*Marked parts see the Electrical Parts List

PACKING EXPLODED VIEW



Deck Mechanism View 1

Mark	Description	Part No.
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068



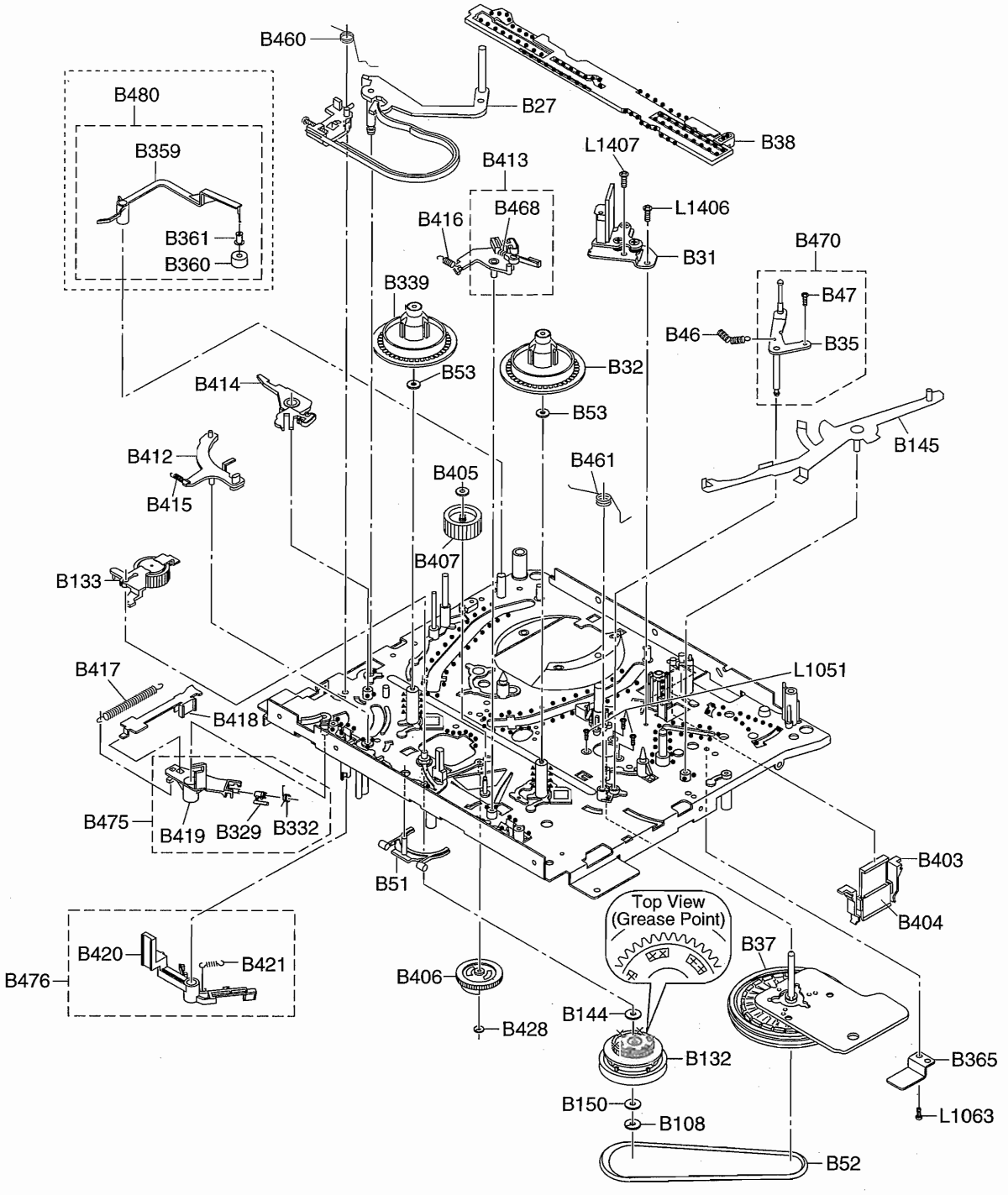
Some Ref. Numbers are not in sequence.

Deck Mechanism View 2

Mark	Description	Part No.
×××××	Sankohl FG-84M (White grease)	0VZZ00062
•••••	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068

Note: Two different, but interchangeable, types of Capstan Motor (B37) may be installed in these models. Based on the type of capstan motor, items B365 and L1063 will be used/not used as shown in the table below.

Type	Part No.	B365	L1063
A	MMDZB12SJ006	Not used	Not used
B	N9620CML	Used	Used

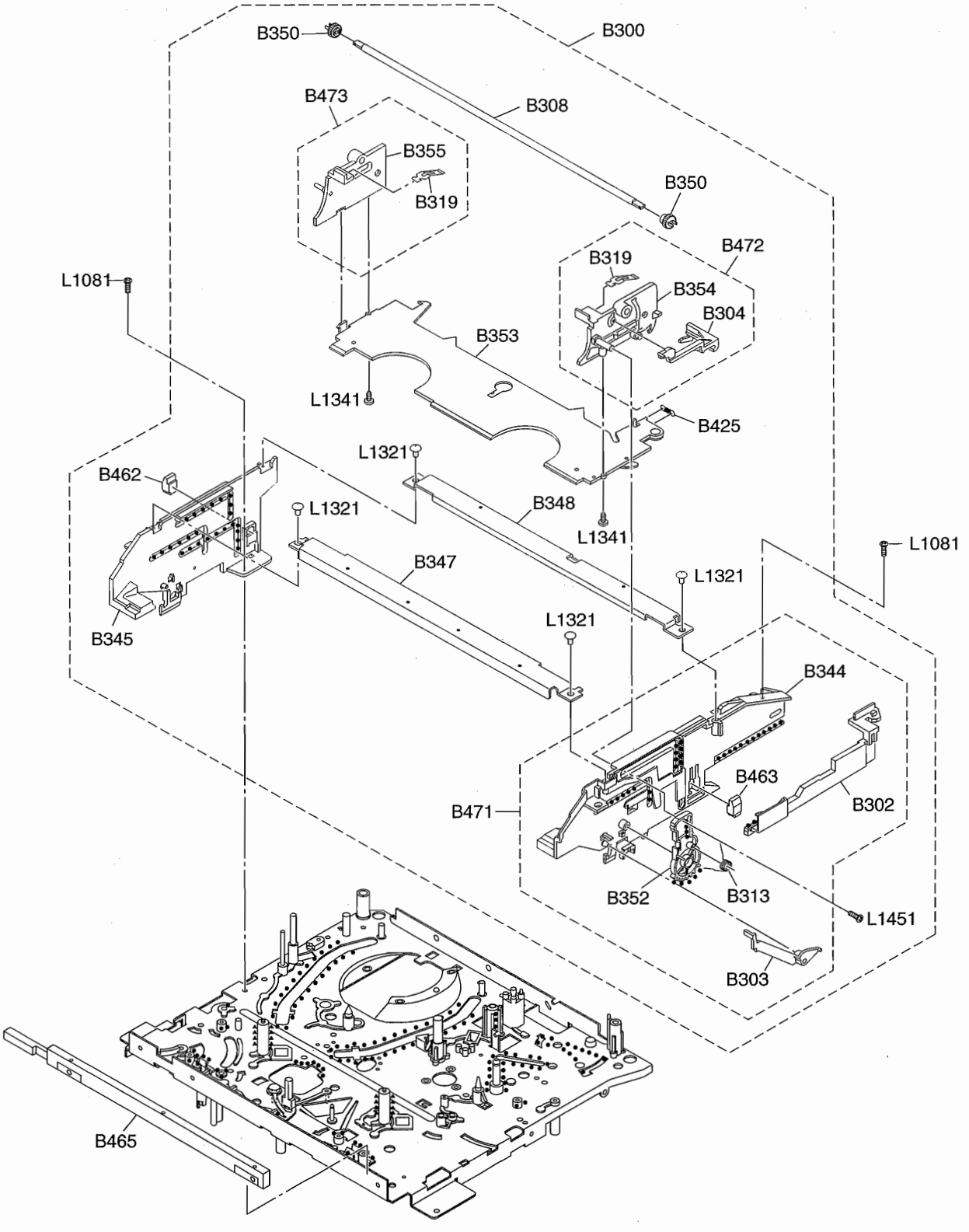


See the Mechanical Parts List.

Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description	Part No.
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	Haidoro Frudo EP56 (Spindle oil)	0VZZ00068



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY For Model SC3813 [A1-1, A1-2, A1-3, A1-4, A1-5 and A1-6 are included]	0EM100887
A1X	FRONT CABINET ASSEMBLY For Model F3813C [A1-1, A1-2, A1-3, A1-4, A1-5 and A1-6 are included]	0EM100888
A1-1	FRONT CABINET	0EM000303
A1-2	CONTROL PLATE	0EM301140
A1-3	BRAND PLATE " SYMPHONIC " For Model SC3813	0EM404173
A1-3	BRAND PLATE " FUNAI " For Model F3813C	0EM404194
A1-4	CASSETTE DOOR	0EM301139
A1-5	DOOR SPRING	0VM403773
A1-6	CLOTH(4X4)	0EM402404
A2	REAR CABINET	0EM000304
A3 ⚠	RATING LABEL For Model SC3813	0EM404174
A3 ⚠	RATING LABEL For Model F3813C	0EM404195
A4	POP LABEL For Model SC3813	0EM404186
A4	POP LABEL For Model F3819C	0EM404196
A5	TELEPHONE NO. LABEL	0EM402173A
B1	TENSION SPRING B0080B0:EM40808	26WH006
B2	CRT MOUNTING SCREW B0030U1	8A00083
B3	SHIELD PLATE	0EM404187
B5	CLOTH(L) :200X16X0.5T	0VM404367
L1	SCREW P-TIGHT 4X18 BIND HEAD +	GBMP4180
L2	SCREW TAPPING M4X14 BIND HEAD+	DBM14140
L3	SCREW S-TIGHT 3X4 BIND HEAD+	GBMS3040
L4	SCREW P-TIGHT 3X10 BIND HEAD	GBUP3100
S1	CARTON For Model SC3813	0EM404188
S1	CARTON For Model F3813C	0EM404197
S2	STYROFOAM TOP ASSEMBLY	0EM404189
S3	STYROFOAM BOTTOM ASSEMBLY	0EM404190
S4	SERIAL NO. LABEL For Model SC3813	0EM404191
S4	SERIAL NO. LABEL For Model F3813C	0EM404198
S6	SET SHEET :800X1500	0EM402369
TL1	SCREW P-TIGHT M3X12 BIND HEAD+	GBKP3120
TL2	SCREW P-TIGHT M3X12 WASHER HEAD+	GCMP3120
X1	POLYETHYLENE BAG	Z223380
X2 ⚠	OWNER'S MANUAL For Model SC3813	0EMN01323
X2 ⚠	OWNER'S MANUAL For Model F3813C	0EMN01324
X3	REMOTO CONTROL UNIT 512/ERC001/N0220UD	N0220UD
X4	DRY BATTERY R6P UM3 or	XB0M451GH001
	DRY BATTERY UM3/R6S or	579W099
	DRY BATTERY R6P(AR)	XB0M451HU002
X5	ROD ANTENNA :NTSC W/COO	0EMN00673
X22	RETURN STOP SHEET or	0VM408869
	RETURN STOP SHEET	0VM408869A
	DECK ASSEMBLY	N7001FT
	CLEANER ASSEMBLY MK7	0VSA09032
B359	CLEANER LEVER MK7	0VM303350
B360	CLEAN ROLLER MK4	0VM406123
B361	CLEAN BEARING MK4	0VM406124

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (----------) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

Main (MMA) CBA

Ref. No.	Description	Part No.
	Main (MMA) CBA Consists of the following	0ESA02440
	CAPACITORS	
C 001	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C 002	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 003	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 004	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 005	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 006	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 007	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 008	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 009	CERAMIC CAP.(AX) B K 0.01μF/50V	CCA1JKT0B103
C 010	CERAMIC CAP.(AX) SL J 56pF/50V	CCA1JJTSL560
C 032	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 101	CERAMIC CAP.(AX) B K 470pF/50V	CCA1JKT0B471
C 106	CHIP CERAMIC CAP. B K 220pF/50V	CHE1JKB0B221
C 107	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 108	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 109	*MYLAR CAP. 0.001μF/50V J or MYLAR CAP. 0.001μF/50V K	CMA1JJP00102 2250102
C 110	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C 111	ELECTROLYTIC CAP. 0.1μF/50V M	CE1JMASDL0R1
C 113	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C 114	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 115	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 118	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 119	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 120	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 121	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 123	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 124	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 125	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 128	CERAMIC CAP.(AX) F Z 0.022μF/25V	CDA1EZT0F223
C 201	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 203	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 205	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 208	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 209	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 210	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMASSL0R1
C 211	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 212	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 213	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMASSL470
C 215	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 216	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C 218	CHIP CERAMIC CAP. CH D 10pF/50V	CHE1JDBCH100
C 219	CHIP CERAMIC CAP. CH J 15pF/50V	CHE1JJBCH150
C 220	CHIP CERAMIC CAP. CH J 20pF/50V	CHE1JJBCH200
C 221	CHIP CERAMIC CAP. CH J 20pF/50V	CHE1JJBCH200
C 223	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 225	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 232	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 233	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 234	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 235	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 236	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 237	CERAMIC CAP.(AX) X M 6800pF/16V	CDA1CMT0X682
C 239	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 242	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 243	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 244	CHIP CERAMIC CAP. B K 1000pF/50V	CHE1JKB0B102
C 245	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 246	ELECTROLYTIC CAP. 22μF/16V M LL H7	CA1C220SP018
C 248	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 249	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 250	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 251	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220
C 252	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 253	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 254	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 255	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 256	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 258	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 259	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 264	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 266	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 267	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 268	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 269	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 270	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 271	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 301	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 302	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 303	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
C 304	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 305	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 307	PCB JUMPER D0.6-P5.0	JW5.0T
C 308	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 309	CHIP CERAMIC CAP. B K 0.01μF/50V	CHE1JKB0B103
C 312	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 313	ELECTROLYTIC CAP. 220μF/10V M	CE1AMASDL221
C 314	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 315	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 316	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 317	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 318	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C 319	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 320	CERAMIC CAP.(AX) Y M 0.01μF/16V	CDA1CMT0Y103
C 321	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 322	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C 323	ELECTROLYTIC CAP. 22μF/16V M	CE1CMASDL220

*Mylar is a registered trademark of E. I. Du Pont de Nemours and Company.

Ref. No.	Description	Part No.
C 324	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 325	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 326	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 328	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 329	CERAMIC CAP.(AX) Y M 0.015μF/6V	CDA0KMT0Y153
C 330	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 331	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 332	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 333	CERAMIC CAP.(AX) X M 1800pF/16V	CDA1CMT0X182
C 334	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 335	CERAMIC CAP.(AX) F Z 0.022μF/25V	CDA1EZT0F223
C 336	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 337	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C 339	CERAMIC CAP.(AX) X K 3900pF/16V	CDA1CKT0X392
C 340	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 341	CERAMIC CAP.(AX) SL J 47pF/50V	CCA1JJTSL470
C 342	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C 343	SEMICONDUCTOR CAP. YF Z 0.22μF/16V	CDB1CZS0F224
C 345	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZT0F104
C 346	CERAMIC CAP.(AX) SL J 27pF/50V	CCA1JJTSL270
C 347	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C 367	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 369	CHIP CERAMIC CAP. SL J 100pF/50V	CHE1JJBSL101
C 401	ELECTROLYTIC CAP. 0.47μF/50V M H7	CE1JMASSLR47
C 402	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 403	CERAMIC CAP.(AX) F Z 0.047μF/16V	CDA1CZT0F473
C 404	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMASSL0R1
C 405	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 406	PCB JUMPER D0.6-P5.0	JW5.0T
C 407	PCB JUMPER D0.6-P5.0	JW5.0T
C 408	CHIP CERAMIC CAP. SL J 27pF/50V	CHE1JJBSL270
C 409	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 410	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 412	CHIP CERAMIC CAP. B K 390pF/50V	CHE1JKB0B391
C 413	CHIP CERAMIC CAP. SL J 180pF/50V	CHE1JJBSL181
C 414	CHIP CERAMIC CAP. SL J 22pF/50V	CHE1JJBSL220
C 415	CHIP CERAMIC CAP. SL J 68pF/50V	CHE1JJBSL680
C 416	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 417	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 418	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 419	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 421	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 422	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 423	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 424	ELECTROLYTIC CAP. 4.7μF/25V M	CE1EMASDL4R7
C 425	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 426	ELECTROLYTIC CAP. 330μF/6.3V M	CE0KMASDL331
C 428	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 429	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 430	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 431	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 432	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 433	CHIP CERAMIC CAP. B K 5600pF/50V	CHE1JKB0B562
C 434	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 436	CHIP CERAMIC CAP. B K 0.01μF/50V	CHE1JKB0B103
C 437	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 438	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHE1JZB0F473
C 439	CHIP CERAMIC CAP. B K 820pF/50V	CHE1JKB0B821
C 441	CHIP CERAMIC CAP. SL J 47pF/50V	CHE1JJBSL470
C 471	PCB JUMPER D0.6-P5.0	JW5.0T
C 472	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 474	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 475	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 476	CHIP CERAMIC CAP. F Z 0.022μF/50V	CHE1JZB0F223
C 477	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMASSL100
C 478	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010

Ref. No.	Description	Part No.
C 479	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 480	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHE1JZB0F103
C 483	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 484	CHIP CERAMIC CAP. SL J 33pF/50V	CHE1JJBSL330
C 601 ⚠	CERAMIC CAP. LB 1200pF/2kV	CA3D122KG004
C 602	MYLAR CAP. 0.027μF/50V J or	CMA1JJP00273
	MYLAR CAP. 0.027μF/50V K	2250273
C 603	MYLAR CAP. 0.027μF/50V J or	CMA1JJP00273
	MYLAR CAP. 0.027μF/50V K	2250273
C 605 ⚠	METALLIZED FILM CAP. 0.1μF/250V M	CT2E104DC009
C 607	MYLAR CAP. 0.056μF/50V J or	CMA1JJP00563
	MYLAR CAP. 0.056μF/50V K	2250563
C 608	ELECTROLYTIC CAP. 0.22μF/50V M	CE1JMASDLR22
C 609 ⚠	ELECTROLYTIC CAP. 220μF/200V SL F	CA2D221S6008
C 609	ELECTROLYTIC CAP. 220μF/200V M	CE2DMZPTL221
C 610	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 611	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 612	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 613	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μF/AC250V	CCD2EZA0F103
C 614 ⚠	CERAMIC CAP. 0.01μF F CS or	CCG2HMN0F103
	SAFETY CAP. F M 0.01μF/250V	CCG2EMP0F103
C 615 ⚠	CERAMIC CAP. 0.01μF F CS or	CCG2HMN0F103
	SAFETY CAP. F M 0.01μF/250V	CCG2EMP0F103
C 620	ELECTROLYTIC CAP. 470μF/35V M	CE1GMZPDL471
C 622	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C 623	ELECTROLYTIC CAP. 470μF/16V M	CE1CMZPDL471
C 624	ELECTROLYTIC CAP. 470μF/16V M	CE1CMZPDL471
C 625	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C 627	CERAMIC CAP. F Z 0.01μF/50V	CCD1JZS0F103
C 629	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C 630	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 631	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 632	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C 633	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C 634	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C 635	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 637	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C 638	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 639	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C 701	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 801	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL010
C 802	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C 803	SEMICONDUCTOR CAP. YR K 0.027μF/25V	CDA1EKU0X273
C 804	ELECTROLYTIC CAP. 330μF/16V M	CE1CMASDL331
C 805	ELECTROLYTIC CAP. 470μF/16V M	CE1CMZPDL471
C 807	PCB JUMPER D0.6-P5.0	JW5.0T
C 809	PCB JUMPER D0.6-P5.0	JW5.0T
C 851	CHIP CERAMIC CAP. F Z 0.033μF/50V	CHE1JZB0F333
C 852	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 853	ELECTROLYTIC CAP. 3.3μF/50V M	CE1JMASDL3R3
C 854	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMASSL0R1
C 856	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220
C 857	CHIP CERAMIC CAP. B K 680pF/50V	CHE1JKB0B681
C 858	CHIP CERAMIC CAP. B K 2200pF/50V	CHE1JKB0B222
C 859	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMASSL4R7
C 860	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMASSL470
C 861	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C 862	CERAMIC CAP. B K 470pF/100V or	CCD2AKP0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKP0B471
C 863	MYLAR CAP. 0.018μF/100V J or	CMA2AJP00183
	MYLAR CAP. 0.018μF/100V K	1251183
C 864	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMASSL220

Ref. No.	Description	Part No.
C 865	CERAMIC CAP.(AX) Y M 0.01μF/16V	CDA1CMT0Y103
C 866	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 867	CERAMIC CAP.(AX) B K 1000pF/50V	CDA1JKT0B102
C 881	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL010
C 883	PCB JUMPER D0.6-P5.0	JW5.0T
	CONNECTORS	
CN 202	CONNECTOR 8P TMC-J08P-A1	J3TMA08TG002
CN 301	CONNECTOR BASE 6P TUC-P06P-B1	J3TUA06TG001
CN 471	FFC CONNECTOR BASE TOP 4P 9604S-04C	JC04J04ER002
CN 503	CONNECTOR BASE 5P TUC-P05P-B1	J3TUA05TG001
CN 504	CONNECTOR BASE 6P TUC-P06P-B1	J3TUA06TG001
CN 575	CONNECTOR BASE 7P TUC-P07P-B1	J3TUA07TG001
CN 601	CONNECTOR BASE 2P TV-50P-02-V1 or	J3RTC02TG001
	CONNECTOR BASE 2P RTB-1.5-2P	J3RTC02JG001
CN 801	STRAIGHT CONNECTOR BASE or	J383C02UG002
	STRAIGHT PIN HEADER 2P 173981-2	1770258
CN 851	FFC CONNECTOR BASE TOP 17P 9604S-17C	JC04J17ER002
CN 852	CABLE CONNECTOR 2P TMC-E02X-A1	JCTMC02TG001
	DIODES	
D 107	ZENER DIODE MTZJT-775.6A	QDTA0MTZJ5R6
D 108	ZENER DIODE MTZJT-775.6A	QDTA0MTZJ5R6
D 206	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 209	LED SLR-932C-20-AB	QPQ80SLR932C
D 211	LED(RED)L-FORMING LT1814G-81-FL or	NP4Z0LT1814G
	LED(RED)L-FORMING CSL-501H3-MB or	NP6ZCSL501H3
	LED L-53HT	NP4Z000L53HT
D 303	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 402	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 403	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 602	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 603	SWITCHING DIODE 1N4148 T-77	QDTZ001N4148
D 604	ZENER DIODE MTZJT-777.5B	QDTB0MTZJ7R5
D 605	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 606 ⚠	ZENER DIODE MTZJT-7712B	QDTB00MTZJ12
D 609 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 610 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 611 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 612 ⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 614 ⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 615 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 616 ⚠	DIODE 1ZC33	QDQZ0001ZC33
D 617 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 618 ⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 619 ⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 621 ⚠	FAST RECOVERY DIODE ERC25-06	QDQZ0ERC2506
D 624	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133

Ref. No.	Description	Part No.
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 626	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D 627 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 627	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 630	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 632	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 635 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 635	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 636 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 640	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 641	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 646 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 647 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 647	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 648 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 648	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 649 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 649	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 650	SWITCHING DIODE 1N4148 T-77	QDTZ001N4148
D 651	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 652	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148

Ref. No.	Description	Part No.
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 654	PCB JUMPER D0.6-P5.0	JW5.0T
D 655	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 657	ZENER DIODE MTZJT-776.2A	QDTA0MTZJ6R2
D 658	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 660	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 661	ZENER DIODE MTZJT-772.2B	QDTB0MTZJ2R2
D 801 ⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D 801	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 881	PCB JUMPER D0.6-P5.0	JW5.0T
	ICS	
IC 101 ⚠	IC:TV MICON 8BIT M37272M8-064FP	QSMQA0SMB182
IC 201 ⚠	IC:VCR MICON 8BIT M37776M5A147GP	QSMQA0RMB181
IC 202	IC:MEMORY 24LC01B/P or	NSMMA0SMH002
	IC:EEPROM 1K AT24C01A-10PC or	NSMMA0ZAZ003
	IC ST24C01FB6 or	NSMMA0ZSS004
	IC ST24C01CB1	NSMMA0ZSS002
IC 203	IC:OP-AMP. LM324N	NSBLA0SSS007
IC 204	IC BA6955N or	QSBLA0SRM024
	IC TA7291S	14LW342
IC 301 ⚠	IC:CHROMA/IF 1 CHIP M52775FP	QSBLA0RMB020
IC 401	IC:Y/C/A LA71021M	QSBLA0RSY072
IC 470	IC:HEAD AMP LA70001	QSBLA0SSY062
IC 601 ⚠	PHOTO COUPLER PC817X6	QPE600PC817X
IC 602 ⚠	IC:VOLTAGE REGULATOR 5V KIA7805PI	NSBLA0ZJY020
IC 801 ⚠	IC:AUDIO POWER AMP KIA6278P	NSBLA0SJY022
	COILS	
J 044	INDUCTOR 2.7µH-K-26T or	LLAXKATTU2R7
	INDUCTOR 2.7µH-K-26T	LLAXKDTKA2R7
L 001	INDUCTOR 15µH-K-26T or	LLAXKATTU150
	INDUCTOR 15µH-K-26T	LLAXKDTKA150
L 031	PCB JUMPER D0.6-P5.0	JW5.0T
L 101	INDUCTOR 56µH-K-26T or	LLAXKATTU560
	INDUCTOR 56µH-K-26T	LLAXKDTKA560
L 102	INDUCTOR 100µH-J or	LLARJCQTU101
	INDUCTOR 100µH-K	LLARKDQKA101
L 304	INDUCTOR 10µH-K-26T or	LLAXKATTU100
	INDUCTOR 10µH-K-26T	LLAXKDTKA100
L 305	INDUCTOR 18µH-K-26T or	LLAXKATTU180
	INDUCTOR 18µH-K-26T	LLAXKDTKA180
L 306	INDUCTOR 33µH-K-26T or	LLAXKATTU330
	INDUCTOR 33µH-K-26T	LLAXKDTKA330
L 401	INDUCTOR 2.2µH-K	LLARKDQKA2R2
L 402	INDUCTOR 100µH-K-26T or	LLAXKATTU101
	INDUCTOR 100µH-K-26T	LLAXKDTKA101
L 403	PCB JUMPER D0.6-P5.0	JW5.0T
L 404	INDUCTOR 82µH-K-26T or	LLAXKATTU820
	INDUCTOR 82µH-K-26T	LLAXKDTKA820
L 405	PCB JUMPER D0.6-P5.0	JW5.0T
L 472	INDUCTOR 22µH-K-26T or	LLAXKATTU220
	INDUCTOR 22µH-K-26T	LLAXKDTKA220
L 601 ⚠	LINE FILTER LF005 or	LLBG00ZLH001
	LINE FILTER 5.0mH 6Y075 or	LLBG00ZKT004
	LINE FILTER 4.2mH	LLBG00ZTZ001

Ref. No.	Description	Part No.
L 851	INDUCTOR 47µH-K	LLARKDQKA470
	TRANSISTORS	
Q 201	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 202	PHOTO TRANSISTOR ST-319R2-B	QP4B0ST319R2
Q 203	PHOTO TRANSISTOR ST-319R2-B	QP4B0ST319R2
Q 204	PHOTO TRANSISTOR PT380FB or	QP4B00PT380F
	PHOTO TRANSISTOR ST-319R2-B	QP4B0ST319R2
Q 302	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 304	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q 401	PCB JUMPER D0.6-P5.0	JW5.0T
Q 402	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z
Q 403	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 404	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 405	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 406	TRANSISTOR KTC3193(Y) or	NQSY0KTC3193
	TRANSISTOR 2SC2839(E) or	C2839EZ
	TRANSISTOR 2SC2839(F)	C2839FZ
Q 601 ⚠	TRANSISTOR 2SC4508(MR)	QQQZ02SC4508
Q 602 ⚠	TRANSISTOR 2SD734F-NP-AQ	QQSF002SD734
Q 604	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 605 ⚠	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q 605	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 609	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 610 ⚠	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q 610	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 612	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 614 ⚠	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q 614	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 615 ⚠	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q 615	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 616 ⚠	TRANSISTOR 2SC2120-O(TPE2)	QQS002SC2120
Q 616	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 617 ⚠	TRANSISTOR 2SC2120-O(TPE2)	QQS002SC2120
Q 617	TRANSISTOR 2SC2120(Y)	QQSY02SC2120
Q 618	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC536SP(E) or	2SC536SEZ
	TRANSISTOR 2SC536SP(F)	2SC536SFZ
Q 801	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR 2SC3400	2SC3400Z

Ref. No.	Description	Part No.
Q 851	TRANSISTOR 2SA1317U-SPA-AC or	QQSU02SA1317
	TRANSISTOR 2SA1317T-SPA-AC	QQST02SA1317
Q 852	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR 2SA1346	2SA1346Z
Q 853	TRANSISTOR 2SD734F-NP-AQ	QQSF002SD734
Q 854	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 855	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
J 005	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 001	CHIP RES. 1/10W J 22k Ω or	RRXAJB6Z0223
	CHIP RES. 1/8W J 22k Ω	RRX8JB6Z0223
R 003	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 101	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 102	CARBON RES. 1/6W J 18k Ω or	RCX6JATZ0183
	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 110 ⚠	CHIP RES. 1/10W J 100k Ω	RRXAJB6Z0104
R 110	CHIP RES. 1/8W J 100k Ω	RRX8JB6Z0104
R 111	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 112	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 113	CHIP RES. 1/10W J 470k Ω or	RRXAJB6Z0474
	CHIP RES. 1/8W J 470k Ω	RRX8JB6Z0474
R 114	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 118	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 119	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 120	CHIP RES. 1/10W J 22k Ω or	RRXAJB6Z0223
	CHIP RES. 1/8W J 22k Ω	RRX8JB6Z0223
R 125	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 126	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 127	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 128	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 130	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 131	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 132	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 133	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 134	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 201	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 202	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 203	CHIP RES. 1/10W J 33k Ω or	RRXAJB6Z0333
	CHIP RES. 1/8W J 33k Ω	RRX8JB6Z0333
R 204	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 205	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 206	CHIP RES. 1/10W J 680k Ω or	RRXAJB6Z0684
	CHIP RES. 1/8W J 680k Ω	RRX8JB6Z0684

Ref. No.	Description	Part No.
R 208	PCB JUMPER D0.6-P5.0	JW5.0T
R 209	CHIP RES. 1/10W J 560k Ω or	RRXAJB6Z0564
	CHIP RES. 1/8W J 560k Ω	RRX8JB6Z0564
R 212	CHIP RES. 1/10W J 560 Ω or	RRXAJB6Z0561
	CHIP RES. 1/8W J 560 Ω	RRX8JB6Z0561
R 213	CHIP RES. 1/10W J 15k Ω or	RRXAJB6Z0153
	CHIP RES. 1/8W J 15k Ω	RRX8JB6Z0153
R 214	PCB JUMPER D0.6-P5.0	JW5.0T
R 215	CHIP RES. 1/10W J 560 Ω or	RRXAJB6Z0561
	CHIP RES. 1/8W J 560 Ω	RRX8JB6Z0561
R 216	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 217	CHIP RES. 1/10W J 5.6k Ω or	RRXAJB6Z0562
	CHIP RES. 1/8W J 5.6k Ω	RRX8JB6Z0562
R 218	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 219	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 220	PCB JUMPER D0.6-P5.0	JW5.0T
R 224	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 225	ZENER DIODE UZ-27BSD or	QDTD00UZ27BS
	ZENER DIODE UZ-33BSD	QDTD00UZ33BS
R 226	CHIP RES. 1/10W J 100k Ω or	RRXAJB6Z0104
	CHIP RES. 1/8W J 100k Ω	RRX8JB6Z0104
R 227	CHIP RES. 1/10W J 47 Ω or	RRXAJB6Z0470
	CHIP RES. 1/8W J 47 Ω	RRX8JB6Z0470
R 228	CHIP RES. 1/10W J 1.8k Ω or	RRXAJB6Z0182
	CHIP RES. 1/8W J 1.8k Ω	RRX8JB6Z0182
R 229	CHIP RES. 1/10W J 1.2k Ω or	RRXAJB6Z0122
	CHIP RES. 1/8W J 1.2k Ω	RRX8JB6Z0122
R 230	PCB JUMPER D0.6-P5.0	JW5.0T
R 231	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 232	CHIP RES. 1/10W J 1M Ω or	RRXAJB6Z0105
	CHIP RES. 1/8W J 1M Ω	RRX8JB6Z0105
R 233	CHIP RES. 1/10W J 10M Ω or	RRXAJB6Z0106
	CHIP RES. 1/8W J 10M Ω	RRX8JB6Z0106
R 234	CHIP RES. 1/10W J 470k Ω or	RRXAJB6Z0474
	CHIP RES. 1/8W J 470k Ω	RRX8JB6Z0474
R 235	PCB JUMPER D0.6-P5.0	JW5.0T
R 236	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 237	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 239	CHIP RES. 1/10W J 3.9k Ω or	RRXAJB6Z0392
	CHIP RES. 1/8W J 3.9k Ω	RRX8JB6Z0392
R 241	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 242	CHIP RES. 1/10W J 47k Ω or	RRXAJB6Z0473
	CHIP RES. 1/8W J 47k Ω	RRX8JB6Z0473
R 243	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 244	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 245	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 246	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 247	CHIP RES. 1/10W J 39k Ω or	RRXAJB6Z0393
	CHIP RES. 1/8W J 39k Ω	RRX8JB6Z0393
R 248	PCB JUMPER D0.6-P5.0	JW5.0T
R 249	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 250	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683

Ref. No.	Description	Part No.
R 252	CHIP RES. 1/10W J 1.8k Ω or	RRXAJB6Z0182
	CHIP RES. 1/8W J 1.8k Ω	RRX8JB6Z0182
R 253	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 254	PCB JUMPER D0.6-P5.0	JW5.0T
R 256	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 257	CHIP RES. 1/10W J 220k Ω or	RRXAJB6Z0224
	CHIP RES. 1/8W J 220k Ω	RRX8JB6Z0224
R 258	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 259	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 260	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 261	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 263	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 265 ⚠	FIXED METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7KE009
R 265	METAL RESISTOR 1W J 2.7 Ω or	RN012R7UB001
	FIXED METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7HH001
R 269	CARBON RES. 1/6W J 39 Ω or	RCX6JATZ0390
	CARBON RES. 1/4W J 39 Ω	RCX4JATZ0390
R 270	CARBON RES. 1/6W J 39 Ω or	RCX6JATZ0390
	CARBON RES. 1/4W J 39 Ω	RCX4JATZ0390
R 271	CHIP RES. 1/10W J 560k Ω or	RRXAJB6Z0564
	CHIP RES. 1/8W J 560k Ω	RRX8JB6Z0564
R 274	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 275	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 276	CHIP RES. 1/10W J 220 Ω or	RRXAJB6Z0221
	CHIP RES. 1/8W J 220 Ω	RRX8JB6Z0221
R 279	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 290	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 291	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 292	CHIP RES. 1/10W J 2.2k Ω or	RRXAJB6Z0222
	CHIP RES. 1/8W J 2.2k Ω	RRX8JB6Z0222
R 293	CHIP RES. 1/10W J 2.7k Ω or	RRXAJB6Z0272
	CHIP RES. 1/8W J 2.7k Ω	RRX8JB6Z0272
R 294	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 295	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 296	CHIP RES. 1/10W J 2.2k Ω or	RRXAJB6Z0222
	CHIP RES. 1/8W J 2.2k Ω	RRX8JB6Z0222
R 297	CHIP RES. 1/10W J 2.7k Ω or	RRXAJB6Z0272
	CHIP RES. 1/8W J 2.7k Ω	RRX8JB6Z0272
R 298	CHIP RES. 1/10W J 4.7k Ω or	RRXAJB6Z0472
	CHIP RES. 1/8W J 4.7k Ω	RRX8JB6Z0472
R 301	CHIP RES. 1/10W J 560 Ω or	RRXAJB6Z0561
	CHIP RES. 1/8W J 560 Ω	RRX8JB6Z0561
R 302	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 303	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 305	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 306	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 307	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122

Ref. No.	Description	Part No.
R 308	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 311	CHIP RES. 1/10W J 6.8k Ω or	RRXAJB6Z0682
	CHIP RES. 1/8W J 6.8k Ω	RRX8JB6Z0682
R 312	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 313	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 314	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 315	PCB JUMPER D0.6-P5.0	JW5.0T
R 316	CARBON RES. 1/6W J 22 Ω or	RCX6JATZ0220
	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R 317	CHIP RES. 1/10W J 1.8k Ω or	RRXAJB6Z0182
	CHIP RES. 1/8W J 1.8k Ω	RRX8JB6Z0182
R 318	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 319	CHIP RES. 1/10W J 1.8k Ω or	RRXAJB6Z0182
	CHIP RES. 1/8W J 1.8k Ω	RRX8JB6Z0182
R 320	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 321	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 322	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 323	CHIP RES. 1/10W J 18k Ω or	RRXAJB6Z0183
	CHIP RES. 1/8W J 18k Ω	RRX8JB6Z0183
R 324	CARBON RES. 1/6W J 120k Ω or	RCX6JATZ0124
	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R 325	CHIP RES. 1/10W J 120k Ω or	RRXAJB6Z0124
	CHIP RES. 1/8W J 120k Ω	RRX8JB6Z0124
R 326	CARBON RES. 1/6W J 3.3k Ω or	RCX6JATZ0332
	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 327	CARBON RES. 1/6W J 3.9M Ω or	RCX6JATZ0395
	CARBON RES. 1/4W J 3.9M Ω	RCX4JATZ0395
R 329	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 330	CHIP RES. 1/10W J 120k Ω or	RRXAJB6Z0124
	CHIP RES. 1/8W J 120k Ω	RRX8JB6Z0124
R 331	CHIP RES. 1/10W J 220 Ω or	RRXAJB6Z0221
	CHIP RES. 1/8W J 220 Ω	RRX8JB6Z0221
R 332	CARBON RES. 1/6W J 2.2M Ω or	RCX6JATZ0225
	CARBON RES. 1/4W J 2.2M Ω	RCX4JATZ0225
R 333	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 334	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 335	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 339	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 340	PCB JUMPER D0.6-P5.0	JW5.0T
R 346	CHIP RES. 1/10W J 56k Ω or	RRXAJB6Z0563
	CHIP RES. 1/8W J 56k Ω	RRX8JB6Z0563
R 348	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R 349	CHIP RES. 1/10W J 220 Ω or	RRXAJB6Z0221
	CHIP RES. 1/8W J 220 Ω	RRX8JB6Z0221
R 350	CHIP RES. 1/10W J 330 Ω or	RRXAJB6Z0331
	CHIP RES. 1/8W J 330 Ω	RRX8JB6Z0331
R 352	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 353	CHIP RES. 1/10W J 33k Ω or	RRXAJB6Z0333
	CHIP RES. 1/8W J 33k Ω	RRX8JB6Z0333
R 354	CHIP RES. 1/10W J 18k Ω or	RRXAJB6Z0183
	CHIP RES. 1/8W J 18k Ω	RRX8JB6Z0183

Ref. No.	Description	Part No.
R 355	CARBON RES. 1/6W J 270k Ω or	RCX6JATZ0274
	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R 357	CARBON RES. 1/6W J 820k Ω or	RCX6JATZ0824
	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R 358	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 359	CHIP RES. 1/10W J 220 Ω or	RRXAJB6Z0221
	CHIP RES. 1/8W J 220 Ω	RRX8JB6Z0221
R 370	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 375	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 376	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 380	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 382	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 401	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 402	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R 404	CHIP RES. 1/10W J 820 Ω or	RRXAJB6Z0821
	CHIP RES. 1/8W J 820 Ω	RRX8JB6Z0821
R 406	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 410	PCB JUMPER D0.6-P5.0	JW5.0T
R 411	CHIP RES. 1/10W J 4.7k Ω or	RRXAJB6Z0472
	CHIP RES. 1/8W J 4.7k Ω	RRX8JB6Z0472
R 412	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 413	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 414	CARBON RES. 1/6W J 1M Ω or	RCX6JATZ0105
	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R 415	CARBON RES. 1/6W J 2.2k Ω or	RCX6JATZ0222
	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R 416	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 417	PCB JUMPER D0.6-P5.0	JW5.0T
R 418	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 419	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 420	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 421	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 422	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 424	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 425	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 426	CHIP RES. 1/10W J 4.7k Ω or	RRXAJB6Z0472
	CHIP RES. 1/8W J 4.7k Ω	RRX8JB6Z0472
R 427	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 428	CHIP RES. 1/10W J 390 Ω or	RRXAJB6Z0391
	CHIP RES. 1/8W J 390 Ω	RRX8JB6Z0391
R 471	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 472	PCB JUMPER D0.6-P5.0	JW5.0T
R 473	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 474	CHIP RES. 1/10W J 330 Ω or	RRXAJB6Z0331

Ref. No.	Description	Part No.
	CHIP RES. 1/8W J 330 Ω	RRX8JB6Z0331
R 475	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 476	CARBON RES. 1/6W J 6.8k Ω or	RCX6JATZ0682
	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 477	CHIP RES. 1/10W J 4.7k Ω or	RRXAJB6Z0472
	CHIP RES. 1/8W J 4.7k Ω	RRX8JB6Z0472
R 478	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 479	CHIP RES. 1/10W J 470 Ω or	RRXAJB6Z0471
	CHIP RES. 1/8W J 470 Ω	RRX8JB6Z0471
R 601	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 602	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 603	CARBON RES. 1/6W J 39k Ω or	RCX6JATZ0393
	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R 604	PCB JUMPER D0.6-P5.0	JW5.0T
R 605	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 607 ⚠	METAL RES. 2W J 27 Ω or	RN02270ZU001
	FIXED EMTAL OXIDE FILM RES. 2W J 27 Ω or	RN02270KE007
	METAL RES. 2W J 27 Ω	RN02270UB001
R 608 ⚠	METAL RES. 2W J 27 Ω or	RN02270ZU001
	FIXED EMTAL OXIDE FILM RES. 2W J 27 Ω or	RN02270KE007
	METAL RES. 2W J 27 Ω	RN02270UB001
R 609 ⚠	METAL RES. 2W J 27 Ω or	RN02270ZU001
	FIXED EMTAL OXIDE FILM RES. 2W J 27 Ω or	RN02270KE007
	METAL RES. 2W J 27 Ω	RN02270UB001
R 610	CARBON RES. 1/6W J 8.2 Ω or	RCX6JATZ08R2
	CARBON RES. 1/4W J 8.2 Ω	RCX4JATZ08R2
R 613	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R 614	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 615	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R 616 ⚠	METAL RES. 2W J 33 Ω or	RN02330ZU001
	FIXED METAL OXIDE FILM RES. 2W J 33 Ω or	RN02330KE007
	METAL RESISTOR 2W J 33 Ω	RN02330UB001
R 617	PCB JUMPER D0.6-P5.0	JW5.0T
R 618	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 619	CHIP RES. 1/10W J 22 Ω or	RRXAJB6Z0220
	CHIP RES. 1/8W J 22 Ω	RRX8JB6Z0220
R 620	CHIP RES. 1/10W J 1k Ω or	RRXAJB6Z0102
	CHIP RES. 1/8W J 1k Ω	RRX8JB6Z0102
R 625	CHIP RES. 1/10W J 18k Ω or	RRXAJB6Z0183
	CHIP RES. 1/8W J 18k Ω	RRX8JB6Z0183
R 626 ⚠	CEMENT RESISTOR 5W K 1.2 Ω	RW051R2UB001
R 627 ⚠	ANTI-SURGE RESISTOR 1/2W J 3.3M Ω	RMX2335KA011
R 627	CARBON RES. 1/2W J 3.3M Ω	RCX2335A4001
R 629	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 630 ⚠	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 630	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 631 ⚠	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 631	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R 633 ⚠	PCB JUMPER D0.6-P5.0	JW5.0T
R 635	CARBON RES. 1/6W J 82k Ω or	RCX6JATZ0823
	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R 636 ⚠	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 636	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 641 ⚠	CEMENT RES. 7W K 2.7k Ω	RW07272UB004
R 642 ⚠	METAL RESISTOR 2W J 6.8k Ω	RN02682ZU001
R 642	METAL RES. 2W J 6.8k Ω or	RN02682KE007

Ref. No.	Description	Part No.
	METAL RESISTOR 2W J 6.8k Ω	RN02682UB001
R 643	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 644	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 645 ⚠	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 646	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 647 ⚠	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 647	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 648 ⚠	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 648	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 649	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 650	CHIP RES. 1/10W J 390 Ω or	RRXAJB6Z0391
	CHIP RES. 1/8W J 390 Ω	RRX8JB6Z0391
R 652	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 655 ⚠	CHIP RES. 1/10W J 6.8k Ω or	RRXAJB6Z0682
	CHIP RES. 1/8W J 6.8k Ω	RRX8JB6Z0682
R 656	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 657	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 658	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R 659	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 662 ⚠	METAL RESISTOR 2W J 47 Ω	RN02470ZU001
R 662	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470KE007
	METAL OXIDE RESISTOR 2W J 47 Ω H1=11	RN02470UB001
R 663 ⚠	METAL RESISTOR 2W J 47 Ω	RN02470ZU001
R 663	FIXED METAL OXIDE FILM RES. 2W J 47 Ω or	RN02470KE007
	METAL OXIDE RESISTOR 2W J 47 Ω H1=11	RN02470UB001
R 664	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 665 ⚠	CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R 665	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R 666 ⚠	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 666	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 667 ⚠	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R 667	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R 668 ⚠	CARBON RES. 1/2W J 12 Ω	RCX2JZPZ0120
R 668	CARBON RES. 1/2W J 12 Ω or	RCX2120KA013
	CARBON RES. 1/2W J 12 Ω	RCX2JZQZ0120
R 669	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 670	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 672 ⚠	CARBON RES. 1/2W J 22 Ω	RCX2JZPZ0220
R 672	CARBON RES. 1/2W J 22 Ω or	RCX2220KA013
	CARBON RES. 1/2W J 22 Ω	RCX2JZQZ0220
R 674 ⚠	CARBON RES. 1/6W J 10 Ω	RCX6JATZ0100
R 674	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R 677	CARBON RES. 1/6W J 33k Ω or	RCX6JATZ0333
	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R 678	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 679	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 680 ⚠	METAL RESISTOR 2W J 560 Ω	RN02561ZU001
R 680	FIXED METAL OXIDE FILM RES. 2W J 560 Ω or	RN02561KE007
	METAL RES. 2W J 560 Ω	RN02561UB001
R 681	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223

Ref. No.	Description	Part No.
R 682	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 683	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 685	CARBON RES. 1/6W J 560 Ω or	RCX6JATZ0561
	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R 686	WIRE 050/BLA/AWG26#1007	WX3001A6FF05
R 701	CHIP RES. 1/10W J 75 Ω or	RRXAJB6Z0750
	CHIP RES. 1/8W J 75 Ω	RRX8JB6Z0750
R 702	PCB JUMPER D0.6-P5.0	JW5.0T
R 704	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 801	CHIP RES. 1/10W J 680 Ω or	RRXAJB6Z0681
	CHIP RES. 1/8W J 680 Ω	RRX8JB6Z0681
R 802	CHIP RES. 1/10W J 3.3k Ω or	RRXAJB6Z0332
	CHIP RES. 1/8W J 3.3k Ω	RRX8JB6Z0332
R 803	CHIP RES. 1/10W J 150 Ω or	RRXAJB6Z0151
	CHIP RES. 1/8W J 150 Ω	RRX8JB6Z0151
R 804	CHIP RES. 1/10W J 470 Ω or	RRXAJB6Z0471
	CHIP RES. 1/8W J 470 Ω	RRX8JB6Z0471
R 805	CHIP RES. 1/10W J 1.5M Ω or	RRXAJB6Z0155
	CHIP RES. 1/8W J 1.5M Ω	RRX8JB6Z0155
R 806	CHIP RES. 1/10W J 2.2k Ω or	RRXAJB6Z0222
	CHIP RES. 1/8W J 2.2k Ω	RRX8JB6Z0222
R 807	CHIP RES. 1/10W J 1.5k Ω or	RRXAJB6Z0152
	CHIP RES. 1/8W J 1.5k Ω	RRX8JB6Z0152
R 808 ⚠	FIXED METAL OXIDE FILM RES. 1W J 6.8 Ω	RN016R8KE009
R 808	METAL RES. 1W J 6.8 Ω or	RN016R8UB001
	FIXED METAL OXIDE FILM RES. 1W J 6.8 Ω	RN016R8HH001
R 809	CARBON RES. 1/2W J 100 Ω or	RCX2JZPZ0101
	CARBON RES. 1/2W J 100 Ω or	RCX2101KA013
	CARBON RES. 1/2W J 100 Ω	RCX2JZQZ0101
R 851	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 852	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 853	CHIP RES. 1/10W J 27k Ω or	RRXAJB6Z0273
	CHIP RES. 1/8W J 27k Ω	RRX8JB6Z0273
R 854	CHIP RES. 1/10W J 4.7k Ω or	RRXAJB6Z0472
	CHIP RES. 1/8W J 4.7k Ω	RRX8JB6Z0472
R 855	CARBON RES. 1/6W J 2.2M Ω or	RCX6JATZ0225
	CARBON RES. 1/4W J 2.2M Ω	RCX4JATZ0225
R 856	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 857	CHIP RES. 1/10W J 3.3k Ω or	RRXAJB6Z0332
	CHIP RES. 1/8W J 3.3k Ω	RRX8JB6Z0332
R 858	CARBON RES. 1/6W J 1.3k Ω or	RCX6JATZ0132
	CARBON RES. 1/4W J 1.3k Ω	RCX4JATZ0132
R 859	CHIP RES. 1/10W J 22k Ω or	RRXAJB6Z0223
	CHIP RES. 1/8W J 22k Ω	RRX8JB6Z0223
R 860	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 861	CHIP RES. 1/10W J 22k Ω or	RRXAJB6Z0223
	CHIP RES. 1/8W J 22k Ω	RRX8JB6Z0223
R 863	CHIP RES. 1/10W J 47k Ω or	RRXAJB6Z0473
	CHIP RES. 1/8W J 47k Ω	RRX8JB6Z0473
R 864	CHIP RES. 1/10W J 100 Ω or	RRXAJB6Z0101
	CHIP RES. 1/8W J 100 Ω	RRX8JB6Z0101
R 865	CHIP RES. 1/10W J 2.7k Ω or	RRXAJB6Z0272
	CHIP RES. 1/8W J 2.7k Ω	RRX8JB6Z0272
R 866	CHIP RES. 1/10W J 10k Ω or	RRXAJB6Z0103
	CHIP RES. 1/8W J 10k Ω	RRX8JB6Z0103
R 867	CHIP RES. 1/10W J 2.2k Ω or	RRXAJB6Z0222
	CHIP RES. 1/8W J 2.2k Ω	RRX8JB6Z0222
R 868	CHIP RES. 1/10W J 2.2k Ω or	RRXAJB6Z0222
	CHIP RES. 1/8W J 2.2k Ω	RRX8JB6Z0222

Ref. No.	Description	Part No.
R 869	CARBON RES. 1/6W J 180 Ω or	RCX6JATZ0181
	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R 870	CARBON RES. 1/6W J 330k Ω or	RCX6JATZ0334
	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R 871	CHIP RES. 1/10W J 8.2k Ω or	RRXAJB6Z0822
	CHIP RES. 1/8W J 8.2k Ω	RRX8JB6Z0822
R 872	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 873	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 886	PCB JUMPER D0.6-P5.0	JW5.0T
	SWITCHES	
SW 201	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 202	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 203	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 204	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 205	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 206	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 207	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 208	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 209	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 210	TACT SWITCH SKQSAB or	SST0101AL038
	PUSH SWITCH KSM0612B	SST0101HH003
SW 211	PUSH SWITCH SPPB61 or	SSP0102AL001
	PUSH SWITCH JPS1120-0601H	SSP0102SR001
	TRANSFORMERS	
T 301	VCO COIL KHI-821023 or	LFA08V0KV002
	VCO COIL KS1252NC	LFA08V0LH002
T 601 ⚠	SWITCHING TRANS S1711F	LTT00CPSA035
	CRYSTAL OSCILLATORS	
X 101	CERAMIC RESONATOR ZTT 8.00MHz or	FY0805PLN001
	CERAMIC RESONATOR FCR8.0MC	FY0805PTE001
X 201	CRYSTAL OSCILLATOR 16MHz	FXE166LCT001
X 202	CRYSTAL OSCILLATOR 32.768kHz or	FXB323LDS002
	CRYSTAL OSCILLATOR 32kHz(10PPM) or	1811350
	CRYSTAL OSCILLATOR 32kHz(10PPM)	1811351
X 301	CERAMIC RESONATOR XZT503F18 or	FY0514PS0001
	CERAMIC RESONATOR CSB503F18	FY0504PMR001
X 302	CRYSTAL OSCILLATOR 3.579545 MHz	FXD355LLN001
X 401	CRYSTAL OSCILLATOR 3.579545 MHz	FXD355LLN002
	MISCELLANEOUS	
BC 601	BEAD INDUCTORS RH3.5X10X1.3B or	LLBF00ZY2001
	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2 or	LLBF00ZXM001
	BEAD INDUCTORS FBR07HA121NB-00	LLBF00ZTU024
BC 602	BEAD INDUCTORS RH3.5X10X1.3B or	LLBF00ZY2001
	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001
	BEAD INDUCTORS B16RH3.5X10X1.3X2 or	LLBF00ZXM001
	BEAD INDUCTORS FBR07HA121NB-00	LLBF00ZTU024
BC 603	BEAD INDUCTORS RH3.5X10X1.3B or	LLBF00ZY2001
	BEAD INDUCTORS 1-03-BAR-510X or	LLBF00ZF8001

Ref. No.	Description	Part No.
	BEAD INDUCTORS B16RH3.5X10X1.3X2 or	LLBF00ZXM001
	BEAD INDUCTORS FBR07HA121NB-00	LLBF00ZTU024
BC 604	PCB JUMPER P5.0MM	JW5.0
CF 301	CERAMIC TRAP 4.5MHz or	FBE455PS0001
	CERAMIC TRAP TPS4.5MB2	FBE455PMR001
CF 302	CERAMIC FILTER LT4.5MB or	FBB455PS0001
	CERAMIC FILTER SFSH4.5MCB	FBB455PMR001
CL 201	WIRE 050/BLA/AWG26#1007	WX3001A6FF05
CL 401	WIRE 050/BLA/AWG26#1007	WX3001A6FF05
CL 802	WIRE ASSEMBLY 2P/150	WX1B5900-001
F 601 ⚠	FUSE 4A/125V 237 TYPE	PAGJ20CAG402
FH 601 ⚠	FUSE HOLDER SF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078 or	XH01Z00DK001
	HOLDER FUSE CNT41-0014	1790424
FH 602 ⚠	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078 or	XH01Z00DK001
	HOLDER FUSE CNT41-0014	1790424
JK 701	RCA JACK(YELLOW) RJ-1066-04-1030 or	JXRL010JD015
	RCA JACK(YELLOW) JPJ2023-01-040 or	JXRL010HD014
	RCA JACK(YELLOW) AV1-15-3	JXRL010RP013
JK 702	RCA JACK(WHITE) RJ-1066-03-1030 or	JXRL010JD014
	RCA JACK(WHITE) JPJ2023-01-030 or	JXRL010HD013
	RCA JACK(WHITE) AV1-15-4	JXRL010RP014
JK 801	EARPHONE JACK HSJ1403-01-010 or	JYSL030HD002
	EARPHONE JACK LGY6501-0600	JYSL030SR001
PS 602 ⚠	POSISTOR B59481-S1050-B10 or	NN4Z0B59481S
	POSISTOR ZPB31BL7R0B	5790124
RS 201	REMOTE RECEIVER PIC-26042LU or	USESJRSKK022
	REMOTE RECEIVER NJL65V367S	USESJRSJR012
SF 031	SAW FILTER M1958M	FBB456PEB001
SG 601 ⚠	GAP. G3.35	FAZ000LD6002
TB 1	TRAY CHASSIS	0EM000302
TB 2	TOP SHIELD(2)	0EM200846
TB 3	HEAD SHIELD	0EM301128
TB 4	MODEL NO. LABEL	0EM404203
TB 5	BUSH	LED(E)
TB 6	SPEAKER HOLDER(2) or	0EM200851
	SPEAKER HOLDER(2)	0EM200851A
TB 7	13 POW HEAT SINK PCQ ASSEMBLY	0EM404182
TB 9	BOTTOM SHIELD	0EM301132
TB 16	BUSH	LED(D)
TB 17	CLOTH(16X55XT:0.5)	0EM404363
TB 18	WASHER(D8)	0VM408931
TB 19	CLOTH(10X15XT1.0)	0EM403762
TB 20	CLOTH(10X30XT0.5)	0EM404486
TL 1	SCREW P-TIGHT 3X12 BIND HEAD+	GBMP3120
TL 2	SCREW P-TIGHT 3X12 WASHER HEAD+	GCMP3120
TL 3	SCREW B-TIGHT 3X8 BIND HEAD+	GBMB3080
TL 4	SCREW S-TIGHT 3X4 BIND HEAD+	GBMS3040
TL 6	SCREW P-TIGHT 3X10 BIND HEAD	GBUP3100
TL 7	SCREW P-TIGHT 3X10 BIND HEAD	GBUP3100
TL 8	SCREW P-TIGHT 3X25 BIND HEAD+	GBMP3250
TU 001	TUNER UNIT 115-B-8035AP or	UTUNNTUSP009
	TUNER UNIT NJH3022U004	UTUNNTUJR006
VR 601 ⚠	CARBON P.O.T. 10k Ω B or	VRCB103KA011
	CARBON P.O.T. 10k Ω B(H)	VRCB103HH009
W 601 ⚠	AC CORD LA-1802 or	WAC0172LW003
	AC CORD LA-1771 or	WAC0182LW005
	AC CORD Q050002X000000F	WAC0172AS001

MUT CBA

Ref. No.	Description	Part No.
	MUT CBA	0ESA02441
	Consists of the following	
	H/V CBA	————
	CRT CBA	————

H/V CBA

Ref. No.	Description	Part No.
	H/V CBA	————
	Consists of the following	
	CAPACITORS	
C 541	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C 542	MYLAR CAP. 0.01µF/50V J or	CMA1JJP00103
	MYLAR CAP. 0.01µF/50V K	2250103
C 543	ELECTROLYTIC CAP. 1µF/50V M LL H7	CA1J1R0SP018
C 544	ELECTROLYTIC CAP. 100µF/35V M	CE1GMZPDL101
C 545	ELECTROLYTIC CAP. 220µF/35V M	CE1GMZPDL221
C 546	CERAMIC CAP.(AX) SL J 10pF/50V	CCA1JJTSL100
C 547	ELECTROLYTIC CAP. 1µF/50V M LL H7	CA1J1R0SP018
C 548	ELECTROLYTIC CAP. 1000µF/16V M	CE1CMZPDL102
C 549	MYLAR CAP. 0.1µF/100V J or	CMA2AJP00104
	MYLAR CAP. 0.1µF/100V K	1251104
C 571 ⚠	METALLIZED FILM CAP. 0.33µF/200V J	CT2D334F7001
C 571	METALLIZED FILM CAP. 0.33µF/200V J or	1220509
	METALLIZED FILM CAP. 0.33µF/250V J	CT2E334EB001
C 573	MYLAR CAP. 0.015µF/50V J or	CMA1JJP00153
	MYLAR CAP. 0.015µF/50V K	2250153
C 574	ELECTROLYTIC CAP. 100µF/35V M	CE1GMZPDL101
C 576 ⚠	METALLIZED FILM CAP. 0.0068µF/1.6kV J	1220498
C 576	METALLIZED FILM CAP. 0.0068µF/1.6kV J or	CT3C682F7002
	METALLIZED FILM CAP. 0.0068µF/1.6kV J	CT3C682EB001
C 578 ⚠	ELECTROLYTIC CAP. 4.7µF/250V	CE2EMZPDL4R7
C 579	ELECTROLYTIC CAP. 1µF/160V or	CE2CMASDL010
	ELECTROLYTIC CAP. 1µF/160V	CE2CMASDL1R0
C 590	ELECTROLYTIC CAP. 1µF/50V M H7	CE1JMASSL010
C 593 ⚠	ELECTROLYTIC CAP. 10µF/160V M	CE2CMZPDL100
	CONNECTORS	
CN 571	CONNECTOR BASE 5P or	1730813
	CONNECTOR BASE 5P RTB-1.5-5P	J3RTC05JG001
CN 572	CONNECTOR 7P TUC-P07X-B1	JCTUS07TG001
CN 573	CONNECTOR 6P TUC-P06X-B1	JCTUS06TG001
	DIODES	
D 541 ⚠	ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D 542	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 571 ⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 572	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 573	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 574	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 575 ⚠	ZENER DIODE MTZJT-7730B	QDTB00MTZJ30
D 577	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 590 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 591 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
D 592 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
	IC	
IC 541 ⚠	IC:VERTICAL OUT LA7837	QSBLA0ZSY003
	TRANSISTORS	
Q 541	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR-TPE2	QQS102SA1015
Q 571	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q 572 ⚠	TRANSISTOR 2SD1877	Q2SD1877CA00
	RESISTORS	
J 564	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 541	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 542	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 543	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 544	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 546	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R 547	CARBON RES. 1/6W J 12k Ω or	RCX6JATZ0123
	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R 548	CARBON RES. 1/6W J 120 Ω or	RCX6JATZ0121
	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R 549	CARBON RES. 1/6W J 120 Ω or	RCX6JATZ0121
	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R 550	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 551	CARBON RES. 1/6W J 2.7k Ω or	RCX6JATZ0272
	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R 552	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R 555	CARBON RES. 1/6W J 10k Ω or	RCX6JATZ0103
	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R 556	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 557	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R 571	CERAMIC CAP.(AX) B K 150pF/50V	CCA1JKT0B151
R 572	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R 573 ⚠	METAL RESISTOR 1W J 68 Ω	RN01680ZU001
R 573	FIXED METAL OXIDE FILM RES. 1W J 68 Ω or	RN01680KE007
	METAL RESISTOR 1W J 68 Ω RSS-SMF P=15	RN01680UB001
R 575	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 576	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R 577 ⚠	FIXED METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2KE009
R 577	METAL RESISTOR 1W J 1.2 Ω or	RN011R2UB001
	FIXED METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2HH001
R 578	CARBON RES. 1/6W J 68k Ω or	RCX6JATZ0683
	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R 579	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R 580	CARBON RES. 1/6W J 1k Ω or	RCX6JATZ0102
	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R 581	CARBON RES. 1/6W J 8.2k Ω or	RCX6JATZ0822

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R 582	PCB JUMPER D0.6-P5.0	JW5.0T
R 583 ⚠	CARBON RES. 1/6W J 18k Ω	RCX6JATZ0183
R 583	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R 584 ⚠	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 584	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R 585 ⚠	CARBON RES. 1/4W G 100k Ω	RCX4GATZ0104
R 586 ⚠	CARBON RES. 1/6W J 120k Ω	RCX6JATZ0124
R 586	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R 587 ⚠	METAL RESISTOR 2W J 1k Ω	RN02102ZU001
R 587	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102KE007
	METAL RESISTOR 2W J 1k Ω	RN02102UB001
R 588 ⚠	METAL RESISTOR 2W J 1k Ω	RN02102ZU001
R 588	FIXED METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102KE007
	METAL RESISTOR 2W J 1k Ω	RN02102UB001
R 589 ⚠	CARBON RES. 1/4W G 100k Ω	RCX4GATZ0104
R 592 ⚠	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 592	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R 593 ⚠	CARBON RES. 1/6W J 22k Ω or	RCX6JATZ0223
	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R 594 ⚠	CARBON RES. 1/6W J 5.6k Ω or	RCX6JATZ0562
	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R 599	PCB JUMPER D0.6-P10.0	JW10.0T
	TRANSFORMERS	
T 571 ⚠	H. DRIVE TRANS NR-7030-1 or	LTH00CPA5002
	H. DRIVE TRANS HT02	LTH00CPY2002
T 572 ⚠	FLYBACK TRANS BSC25-2053S	LTF00CPS2011
	VARIABLE RESISTORS	
VR 541	CARBON P.O.T. 100k Ω B or	VRCB104KA012
	CARBON P.O.T. 100k Ω B(V)	VRCB104HH008
VR 542	CARBON P.O.T. 10k Ω B or	VRCB103KA012
	CARBON P.O.T. 10k Ω B(V)	VRCB103HH008
	MISCELLANEOUS	
BC 571	PCB JUMPER D0.6-P5.0	JW5.0T
CL 573	LEAD WIRE 7P 500/BLA/AWG26#2468	WX3007J65550
CL 574	LEAD WIRE 6P 310/BLA/AWG26#2468	WX3006J65531
DB 1 ⚠	PCB HOLDER	0EM200826
DB 2	13 H/V HEAT SINK(PCR)	0EM404161
DB 4	MODEL NO. LABEL:Z713HV1	0EM404272
DL 1	SCREW P-TIGHT 3X10 BIND HEAD	GBUP3100
DL 2	SCREW B-TIGHT 3X8 BIND HEAD+	GBMB3080
WH 572	WIRE HOLDER 3P HWT0200-03 or	XW0HT03C7001
	WIRE HOLDER 3P 51048-0300	XW01D03NF001
WH 573	WIRE HOLDER 7P HWT0200-07 or	XW0HT07C7001
	WIRE HOLDER 7P 51048-0700	XW01D07NF001
WH 574	WIRE HOLDER 6P HWT0200-06 or	XW0HT06C7001
	WIRE HOLDER 6P 51048-0600	XW01D06NF001
WH 575	WIRE HOLDER 7P HWT0200-07 or	XW0HT07C7001
	WIRE HOLDER 7P 51048-0700	XW01D07NF001
WH 576	WIRE HOLDER 6P HWT0200-06 or	XW0HT06C7001
	WIRE HOLDER 6P 51048-0600	XW01D06NF001

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following	————
	CAPACITORS	
C 501	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 502	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 503	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 504	CERAMIC CAP. 0.001μF/2kV	CCD3DKP0B102
C 505	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C 506	CERAMIC CAP.(AX) F Z 0.01μF/25V	CDA1EZT0F103
	CONNECTORS	
CN 501	CONNECTOR PIN 1P LV or	1700576
	CONNECTOR PIN 1P RT-01N-2.3A	1730688
CN 502	CONNECTOR 5P TUC-P05X-B1	JCTUS05TG001
	DIODES	
D 501	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 502	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
D 503	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1SS254 T-77 or	A1SS254T77**
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	SWITCHING DIODE GMB01-BT or	GMB01BT
	DIODE 1SS176TPA7	1SS176T
J 501	INDUCTOR 1.5μH-K-26T or	LLAXKATTU1R5
	INDUCTOR 1.5μH-K-26T	LLAXKDTKA1R5
	COIL	
L 501	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q 501	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q 502	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
Q 503	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE	QQSD02SC3468
	RESISTORS	
R 501 ⚠	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 501	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 502 ⚠	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 502	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 503 ⚠	METAL RESISTOR 1W J 15k Ω	RN01153ZU001
R 503	FIXED METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153KE007
	METAL RESISTOR 1W J 15k Ω	RN01153UB001
R 504	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 505	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 506	CARBON RES. 1/6W J 1.5k Ω or	RCX6JATZ0152
	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R 507	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 508	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 509	CARBON RES. 1/6W J 680 Ω or	RCX6JATZ0681
	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R 510	CARBON RES. 1/6W J 47 Ω or	RCX6JATZ0470
	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R 511	CARBON RES. 1/6W J 47 Ω or	RCX6JATZ0470
	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R 512	CARBON RES. 1/6W J 47 Ω or	RCX6JATZ0470
	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R 513	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 514	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 515	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R 516	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392

Ref. No.	Description	Part No.
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 517	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 518	CARBON RES. 1/6W J 3.9k Ω or	RCX6JATZ0392
	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R 522	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 523	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R 524	CARBON RES. 1/6W J 1.8k Ω or	RCX6JATZ0182
	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
	MISCELLANEOUS	
CL 501	LEAD WIRE 3P 320/BLA/AWG26#2468	WX3003J65532
CL 502	LEAD WIRE 5P 250/BLA/AWG26#2468	WX3005J65525
SK 501 ⚠	CRT SOCKET ISMS02S	JSCC220PK003
WH 501	WIRE HOLDER 3P HWT0200-03 or	XW0HT03C7001
	WIRE HOLDER 3P 51048-0300	XW01D03NF001
WH 502	WIRE HOLDER 5P HWT0200-05 or	XW0HT05C7001
	WIRE HOLDER 5P 51048-0500	XW01D05NF001
WH 503	WIRE HOLDER 5P HWT0200-05 or	XW0HT05C7001
	WIRE HOLDER 5P 51048-0500	XW01D05NF001

Chassis Electrical Parts

Ref. No.	Description	Part No.
DG 601⚠	DEGAUSSING COIL A4100399 or	LLBH00ZTZ016
	DEGAUSSING COIL AVDG016	LLBH00ZWR016
	CRT GND WIRE CRT GND	WX1L7720-001
SP 801	SPEAKER S08F02	DSD0808XQ006
V 501 ⚠	CRT(BARE+DY) A34AGT13X09 K	TCRT190CP021
	CRT ASSEMBLY NEEDS FOLLOWING PARTS	
V 501 ⚠	CRT A34KQW42X	TCRT190SM013
V 501-1	DEFLECTION YOKE DST1492XL	LLBY00ZSM004
V 501-2	C.P.MAGNET JH225-FN-00	XM04000BV003
V 501-3	RUBBER MAGNET 20X10X1.2	XM05000BV001
V 501-4	NECK TAPE WHITE 80MM	0EZZ00081
V 501-5	WEDGE TAPE BLACK 50MM	0EZZ00083
V 501-6	WEDGE FT-00110W or	XV10000T4001
	WEDGE DB25SR	XV10000D9001
	CRT ASSEMBLY NEEDS FOLLOWING PARTS	
V 501 ⚠	CRT A34KQW42X	TCRT190SM013
V 501-1	DEFLECTION YOKE KDY3GC734X	LLBY00ZMS006
V 501-2	C.P.MAGNET JH225-FN-00	XM04000BV003
V 501-3	RUBBER MAGNET 20X10X1.2	XM05000BV001
V 501-4	NECK TAPE WHITE 80MM	0EZZ00081
V 501-5	WEDGE TAPE BLACK 50MM	0EZZ00083
V 501-6	WEDGE FT-00110W	XV10000T4001
	WEDGE DB25SR	XV10000D9001
	CRT ASSEMBLY NEEDS FOLLOWING PARTS	
V 501 ⚠	CRT A34JFQ90X(VW)	TCRT190P7001
V 501-1	DEFLECTION YOKE KDY3GD592X	LLBY00ZMS004
V 501-2	C.P.MAGNET JH225-FN-00	XM04000BV003
V 501-3	RUBBER MAGNET 20X10X1.2	XM05000BV001
V 501-4	NECK TAPE WHITE 80MM	0EZZ00081
V 501-5	WEDGE TAPE BLACK 50MM	0EZZ00083
V 501-6	WEDGE FT-00110W	XV10000T4001
	WEDGE DB25SR	XV10000D9001
	LEAD CLAMPER 100MM	1790356
	LEAD CLAMPER	1790256

DECK PARTS LIST

Note:

Two different, but interchangeable, types of Capstan Motor (B37) may be installed in these models. Based on the type of capstan motor, items B365 and L1063 will be used/not used as shown in the table below.

Type	Part No.	B365	L1063
A	MMDZB12SJ006	Not used	Not used
B	N9620CML	Used	Used

Ref. No.	Description	Part No.
2B 6	DECK EARTH PLATE U17	0VM408662
2L 051	SCREW, S-TIGHT M3X5 BIND HEAD+	GBMS3050
B 1	CHASSIS ASSEMBLY MK7	0VSA08799
B 2	CYLINDER ASSEMBLY(MK7) NTSC 2HD SQPB	N7007CYL
B 3	LOADING MOTOR ASSEMBLY MK7	0VSA08840
B 4	MOTOR HOLDER MK6	0VM407676D
B 8	PULLEY ASSEMBLY MK6	0VSA08132
B 9	MOVING GUIDE S PREPARATION MK7	0VSA08823
B 10	MOVING GUIDE T PREPARATION MK7	0VSA08824
B 11	LOADING ARM T ASSEMBLY MK7	0VSA08858
B 12	LOADING ARM S ASSEMBLY MK7	0VSA08818
B 13	LOADING LEVER ASSEMBLY MK7	0VSA08821
B 15	LUMIRROR WASHER 3.1X6X0.35	0VM403269
B 21	LOADING BELT MK6	0VM407712
B 27	TENSION LEVER ASSEMBLY MK7	0VSA08816
B 31	AC HEAD ASSEMBLY MK7	0VSA08825
B 32	REEL BASE ASSEMBLY MK6 T	0VSA08236
B 35	TAPE GUIDE ASSEMBLY MK6	0VSA08127
B 37	CAPSTAN MOTOR F2QTB35 or	MMDZB12SJ006
	CAPSTAN MOTOR 288/CCM001	N9620CML
B 38	MODE LEVER MK7	0VM202236
B 46	TAPE GUIDE ARM SPRING MK6	0VM407704C
B 47	TAPE GUIDE ARM ADJUST SCREW	0VM403242
B 51	FF ARM MK7	0VM303181
B 52	CAPSTAN BELT(2) MK6	0VM408223
B 53	P.S.W B	0VM402625
B 73	FE HEAD(MK7) HVFHP0019A or	DHVEC01AL004
	FE HEAD(MK7) MH-131SF7	DHVEC01Z0001
B 74	PRISM MK7	0VM202238
B 81	M LEVER HOLDER MK7	0VM303171
B 108	P.S.W F	0VM402629
B 121	WORM MK6	0VM407662
B 122	P.S.W C	0VM402626
B 123	P.S.W (WORM THRUST)	0VM403348
B 126	PULLEY MK6	0VM407661
B 132	CLUTCH ASSEMBLY MK7	0VSA08859
B 133	IDLER ASSEMBLY MK7	0VSA08820
B 142	SHAFT LOCK ASSEMBLY	0VSA04642
B 144	CLUTCH WASHER MK2	0VM404428
B 145	MAIN LEVER ASSEMBLY MK7	0VSA08822
B 148	TG CAP MK6	0VM407664B
B 150	P.S.W 3.1X6X0.3T	0VM403737
B 300	FL ASSEMBLY MK7	0VSA08798
B 302	RACK MK7	0VM202239
B 303	FRONT DOOR OPENER MK7	0VM303185
B 304	DOOR OPENER MK7	0VM303148
B 308	SLIDER SHAFT MK7	0VM408577
B 313	DRIVE GEAR SPRING MK7	0VM408557A
B 319	CASSETTE SPRING MK6	0VM407984E
B 329	HOLDER KICK ARM MK7	0VM303334
B 332	HOLDER ARM SPRING MK6	0VM408062B
B 339	REEL S ASSEMBLY MK7	0VSA08971
B 344	CASSETTE GUIDE R MK7	0VM100725
B 345	CASSETTE GUIDE L MK7	0VM100726
B 347	GUIDE HOLDER F MK7	0VM303180
B 348	GUIDE HOLDER R MK6 or	0VM302737D
	GUIDE HOLDER R(2) MK7	0VM303035A
B 350	SLIDER GEAR MK6	0VM407673
B 352	CASSETTE DRIVE GEAR(N) MK6	0VM302969A
B 353	CASSETTE PLATE SUB ASSEMBLY MK7	0VSA08807
B 354	SLIDER R MK7	0VM202237
B 355	SLIDER L MK7	0VM202240
B 358	CAM MK7	0VM100724
B 359	CLEANER LEVER MK7 (See Mechanical Parts List)	
B 360	CLEAN ROLLER MK4 (See Mechanical Parts List)	
B 361	CLEAN BEARING MK4 (See Mechanical Parts List)	
B 365	RADIATOR PLATE MK7	0VM408563
B 401	VH CONNECTOR 4A MK7	0VM303174
B 402	VH CONNECTOR 4B MK7	0VM407671
B 403	ACH CONNECTOR A MK7	0VM303177
B 404	ACH CONNECTOR B MK7	0VM408582
B 405	P.S.W CUT 1.7X3.8X0.5T	0VM408485
B 406	SENSOR GEAR MK7	0VM408575
B 407	M GEAR MK6	0VM407666A
B 409	EJECT SPRING MK7	0VM408716
B 410	PINCH ROLLER ASSEMBLY MK7	0VSA08809
B 411	PINCH SPRING MK7	0VM408550
B 412	S BRAKE LEVER MK7	0VM303150
B 413	M BRAKE T SUB ASSEMBLY MK7	0VSA09133
B 414	M BRAKE S ASSEMBLY MK7	0VSA08814
B 415	S BRAKE L SPRING MK7	0VM408556
B 416	M BRAKE T SPRING MK7	0VM408588
B 417	T LEVER SPRING MK7	0VM408918
B 418	TENSION PLATE MK6	0VM407809B
B 419	BT ARM MK7	0VM303182
B 420	REC ARM MK7	0VM303188
B 421	REC ARM SPRING MK6	0VM407708D
B 425	LOCK LEVER SPRING MK7	0VM408555
B 426	KICK PULLEY MK6	0VM407663B
B 427	KICK SPRING MK6	0VM407701
B 428	P.S.W CUT 1.7X3.8X0.5T	0VM408485
B 460	BT SPRING MK7	0VM408551
B 461	MAIN LEVER SPRING MK7	0VM408554
B 462	PRISM L MK7	0VM408540
B 463	PRISM R MK7	0VM408541
B 464	CASSETTE DRIVE LEVER SUB ASSEMBLY MK7	0VSA08827
B 465	INSULATION COVER MK7	0VM408576
B 467	SCREW:LD ARM S MK7	0VM408767
B 468	SOFT BRAKE SPRING MK7	0VM408558
B 470	TAPE GUIDE ARM ASSEMBLY MK6	0VSA08126
B 471	CASSETTE GUIDE R ASSEMBLY MK7	0VSA08802
B 472	SLIDER R ASSEMBLY MK7	0VSA08804
B 473	SLIDER L ASSEMBLY MK7	0VSA08805
B 474	CASSETTE DRIVE LEVER ASSEMBLY MK7	0VSA08813
B 475	BT ARM ASSEMBLY MK7	0VSA08815
B 476	REC ARM ASSEMBLY MK7	0VSA08819
B 480	CLEANER ASSEMBLY MK7 (See Mechanical Parts List)	
L 1051	SCREW, S-TIGHT M2.6X6 PAN HEAD +	GPMS9060
L 1053	SCREW PRISM MK7	0VM409038

Ref. No.	Description	Part No.
L 1063	SCREW, S-TIGHT M2.6X4 PAN HEAD +	GPMS9040
L 1081	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
L 1101	SCREW, P-TIGHT 3X10 BIND HEAD+	GBMP3100
L 1151	SCREW, SEMS M3X4 PAN HEAD +	CPM33040
L 1191	SCREW, P-TIGHT M2.6X12 WASHER HEAD+	GCMP9120
L 1321	SCREW, P-TIGHT M3X8 BIND HEAD+	GBMP3080
L 1341	SCREW, P-TIGHT M2.6X8 BIND HEAD+	GBMP9080
L 1402	SCREW, P-TIGHT M2X6 WASHER HEAD+	GCMP2060
L 1403	SCREW, P-TIGHT M3X10 WASHER HEAD+	GCMP3100
L 1406	SCREW, S-TIGHT M2.6X4 CUP HEAD+	GCMS9040
L 1407	SCREW, S-TIGHT M2.6X8 PAN HEAD +	GPMS9080
L 1450	SCREW, SEMS M2.6X5 PAN HEAD +	APM39050
L 1451	SCREW:SLIDER R MK7	0VM408853

Mode SW CBA (SWV)

Ref. No.	Description	Part No.
B 422	Mode SW CBA (SWV)	0VSA08841
CL 281	PARALLEL WIRE 2P AWG26/GREY/UL2651	WX1N7002-003
R 281	CARBON RES. 1/4W G 3.6k ω	RCX4GATZ0362
R 282	CARBON RES. 1/4W G 1.5k ω	RCX4GATZ0152
R 283	CARBON RES. 1/4W G 10k ω	RCX4GATZ0103
R 284	CARBON RES. 1/4W G 22k ω	RCX4GATZ0223
R 285	CARBON RES. 1/4W G 470 ω	RCX4GATZ0471
SW 281	MODE SWITCH HMW0420-910010 or	SSR0104HD004
	MODE SWITCH SSS-27MD	SSR0104KB002

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